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# STUDIES OF CHILDHOOD

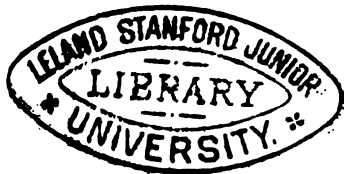
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## P R E F A C E .

THE following Studies are not a complete treatise on child-psychology, but merely deal with certain aspects of children's minds which happen to have come under my notice, and to have had a special interest for me. In preparing them I have tried to combine with the needed measure of exactness a manner of presentation which should attract other readers than students of psychology, more particularly parents and young teachers.

A part of these Studies has already appeared elsewhere. The Introductory Chapter was published in the *Fortnightly Review* for November, 1895. The substance of those from II. to VIII. has been printed in the *Popular Science Monthly* of New York. Portions of the "Extracts from a Father's Diary" appeared in the form of two essays, one on "Babies and Science" in the *Cornhill Magazine* in 1881, and the other on "Baby Linguistics" in the *English Illustrated Magazine* in 1884. The original form of these, involving a certain disguise—though hardly one of impenetrable thickness—has been retained. The greater part of the study on "George Sand's Childhood" was published as two articles in *Longmans' Magazine* in 1889 and 1890.

Like all others who have recently worked at

child-psychology I am much indebted to the pioneers in the field, more particularly to Professor W. Preyer. In addition to these I wish to express my obligations to my colleague, Dr. Postgate, of Trinity College, Cambridge, for kindly reading through my essay on children's language, and giving me many valuable suggestions; to Lieutenant-General Pitt Rivers, F.R.S., and Mr. H. Balfour, of the Museum, Oxford, for the friendly help they rendered me in studying the drawings of savages, and to Mr. E. Cooke for many valuable facts and suggestions bearing on children's modes of drawing. Lastly, I would tender my warm acknowledgments to the parents who have sent me notes on their children's mental development. To some few of these sets of observations, drawn up with admirable care, I feel peculiarly indebted, for without them I should probably not have written my book.

J. S.

HAMPSTEAD,  
*November, 1895.*

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# STUDIES OF CHILDHOOD.

## I.

### INTRODUCTORY.

MAN has always had the child with him, and one might be sure that since he became gentle and alive to the beauty of things he must have come under the spell of the baby. We have evidence beyond the oft-quoted departure of Hector and other pictures of childish grace in early literature that baby-worship and baby-subjection are not wholly things of modern times. There is a pretty story taken down by Mr. Leland from the lips of an old Indian woman, which relates how Glooskap the herogod, after conquering all his enemies, rashly tried his hand at managing a certain mighty baby, Wasis by name, and how he got punished for his rashness.<sup>1</sup>

Yet there is good reason to suppose that it is only within comparatively recent times that the more subtle charm and the deeper significance of infancy have been discerned. We have come to appreciate babyhood as we have come to appreciate the finer lineaments of nature as a whole. This applies, of course, more especially to the ruder sex. The man has in him much of the boy's contempt for small things, and he needed ages of education at the hands of the better-informed woman before he could perceive the charm of infantile ways.

One of the first males to do justice to this attractive subject was Rousseau. He made short work with the

<sup>1</sup> Quoted by Miss Shinn. *Overland Monthly*. January, 1894.

theological dogma that the child is born morally depraved, and can only be made good by miraculous appliances. His watchword, return to nature, included a reversion to the infant as coming virginal and unspoilt by man's tinkering from the hands of its Maker. To gain a glimpse of this primordial beauty before it was marred by man's awkward touch was something, and so Rousseau set men in the way of sitting reverently at the feet of infancy, watching and learning.

For us of to-day, who have learned to go to the pure springs of nature for much of our spiritual refreshment, the child has acquired a high place among the things of beauty. Indeed, the grace of childhood may almost be said to have been discovered by the modern poet. Wordsworth has stooped over his cradle intent on catching, ere they passed, the 'visionary gleams' of 'the glories he hath known'. Blake, R. L. Stevenson, and others, have tried to put into language his day-dreamings, his quaint fancyings. Dickens and Victor Hugo have shown us something of his delicate quivering heart-strings; Swinburne has summed up the divine charm of "children's ways and wiles". The page of modern literature is, indeed, a monument of our child-love and our child-admiration.

Nor is it merely as to a pure untarnished nature that we go back admiringly to childhood. The æsthetic charm of the infant which draws us so potently to its side and compels us to watch its words and actions is, like everything else which moves the modern mind, highly complex. Among other sources of this charm we may discern the perfect serenity, the happy 'insouciance' of the childish mind. The note of world-complaint in modern life has penetrated into most domains, yet it has not, one would hope, penetrated into the charmed circle of childish experience. Childhood has, no doubt, its sad aspect:—

Poor stumbler on the rocky coast of woe,  
Tutored by pain each source of pain to know:

neglect and cruelty may bring much misery into the first bright years. Yet the very instinct of childhood to be glad in its self-created world, an instinct which with consummate art Victor Hugo keeps warm and quick in the breast of the half-starved ill-used child Cosette, secures for it a peculiar blessedness. The true nature-child, who has not become *blasé*, is happy, untroubled with the future, knowing nothing of the misery of disillusion. As, with hearts chastened by many experiences, we take a peep over the wall of his fancy-built pleasance, we seem to be taken back to a real golden age. With Amiel, we say: "Le peu de paradis que nous apercevons encore sur la terre est du à sa présence". Yet the thought, which the same moment brings, of the flitting of the nursery visions, of the coming storm and stress, adds a pathos to the spectacle, and we feel as Heine felt when he wrote:—

Ich schau' dich an, und Wehmuth  
Schleicht mir ins Herz hinein.

Other and strangely unlike feelings mingle with this caressing, half-pitiful admiration. We moderns are given to relieving the strained attitude of reverence and pity by momentary outbursts of humorous merriment. The child, while appealing to our admiration and our pity, makes a large and many-voiced appeal also to our sense of the laughter in things. It is indeed hard to say whether he is most amusing when setting at naught in his quiet, lordly way, our most extolled views, our ideas of what is true and false, of the proper uses of things, and so forth, or when labouring in his perfectly self-conceived fashion to overtake us and be as experienced and as conventional as ourselves. This ever new play of droll feature in childish thought and action forms one of the deepest sources of delight for the modern lover of childhood.

With the growth of a poetic or sentimental interest in childhood there has come a new and different kind of

interest. Ours is a scientific age, and science has cast its inquisitive eye on the infant. We want to know what happens in these first all-decisive two or three years of human life, by what steps exactly the wee amorphous thing takes shape and bulk, both physically and mentally. And we can now speak of the beginning of a careful and methodical investigation of child-nature, by men trained in scientific observation. This line of inquiry, started by physicians, as the German Sigismund, in connection with their special professional aims, has been carried on by a number of fathers and others having access to the infant, among whom it may be enough to name Darwin and Preyer. A fuller list of writings on the subject will be given at the end of the volume.

This eagerness to know what the child is like, an eagerness illustrated further by the number of reminiscences of early years recently published, is the outcome of a many-sided interest which it may be worth while to analyse.

The most obvious source of interest in the doings of infancy lies in its primitiveness. At the cradle we are watching the beginnings of things, the first tentative thrustings forward into life. Our modern science is before all things historical and genetic, going back to beginnings so as to understand the later and more complex phases of things as the outcome of these beginnings. The same kind of curiosity which prompts the geologist to get back to the first stages in the building up of the planet, or the biologist to search out the pristine forms of life, is beginning to urge the student of man to discover by a careful study of infancy the way in which human life begins to take its characteristic forms.

The appearance of Darwin's name among those who have deemed the child worthy of study suggests that the subject is closely connected with natural history. However man in his proud maturity may be related to Nature, it is certain that in his humble inception he is immersed

in Nature and saturated with her. As we all know, the lowest races of mankind stand in close proximity to the animal world. The same is true of the infants of civilised races. Their life is outward and visible, forming a part of nature's spectacle; reason and will, the noble prerogatives of humanity, are scarce discernible; sense, appetite, instinct, these animal functions seem to sum up the first year of human life.

To the evolutionist, moreover, the infant exhibits a still closer kinship to the natural world. In the successive stages of foetal development he sees the gradual unfolding of human lineaments out of a widely typical animal form. And even after birth he can discern new evidences of this genealogical relation of the "lord" of creation to his inferiors. How significant, for example, is the fact recently established by a medical man, Dr. Louis Robinson, that the new-born infant is able just like the ape to suspend his whole weight by grasping a small horizontal rod.<sup>1</sup>

Yet even as nature-object for the biologist the child presents distinctive attributes. Though sharing in animal instinct, he shares in it only to a very small extent. The most striking characteristic of the new-born offspring of man is its unpreparedness for life. Compare with the young of other animals the infant so feeble and incapable. He can neither use his limbs nor see the distance of objects as a new-born chick or calf is able to do. His brain-centres are, we are told, in a pitiable state of undevelopment—and are not even securely encased within their bony covering. Indeed, he resembles for all the world a public building which has to be opened by a given date, and is found when the day arrives to be in a humiliating state of incompleteness.

This fact of the special helplessness of the human off-

<sup>1</sup> The *Nineteenth Century* (1891). Cf. the somewhat fantastic and not too serious paper by S. S. Buckman on "Babies and Monkeys" in the same journal (1894).

spring at birth, of its long period of dependence on parental or other aids—a period which, probably, tends to grow longer as civilisation advances—is rich in biological and sociological significance. For one thing, it presupposes a specially high development of the protective and fostering instincts in the human parents, and particularly the mother—for if the helpless wee thing were not met by these instincts, what would become of our race? It is probable, too, as Mr. Spencer and others have argued, that the institution by nature of this condition of infantile weakness has reacted on the social affections of the race, helping to develop our pitifulness for all frail and helpless things.

Nor is this all. The existence of the infant, with its large and imperative claims, has been a fact of capital importance in the development of social customs. Ethnological researches show that communities have been much exercised with the problem of infancy, have paid it the homage due to its supreme sacredness, girding it about with a whole group of protective and beneficent customs.<sup>1</sup>

Enough has been said, perhaps, to show the far-reaching significance of babyhood to the modern savant. It is hardly too much to say that it has become one of the most eloquent of nature's phenomena, telling us at once of our affinity to the animal world, and of the forces by which our race has, little by little, lifted itself to so exalted a position above this world; and so it has happened that not merely to the perennial baby-worshipper, the mother, and not merely to the poet touched with the mystery of far-off things, but to the grave man of science the infant has become a centre of lively interest.

Nevertheless, it is not to the mere naturalist that the babe reveals all its significance. Physical organism as it seems to be more than anything else, hardly more than a vegetative thing indeed, it carries with it the germ of a

<sup>1</sup> See, for example, the works of H. Ploss, *Das Kind in Branch und Sitte*, and *Das kleine Kind*.

human consciousness, and this consciousness begins to expand and to form itself into a truly human shape from the very beginning. And here a new source of interest presents itself. It is the human psychologist, the student of those impalpable, unseizable, evanescent phenomena which we call "state of consciousness," who has a supreme interest, and a scientific property in these first years of a human existence. What is of most account in these crude tentatives at living after the human fashion is the play of mind, the first spontaneous manifestations of recognition, of reasoning expectation, of feelings of sympathy and antipathy, of definite persistent purpose.

Rude, inchoate, vague enough, no doubt, are these first groping movements of a human mind: yet of supreme value to the psychologist just because they are the first. If, reflects the psychologist, he can only get at this baby's consciousness so as to understand what is passing there, he will be in an infinitely better position to find his way through the intricacies of the adult consciousness. It may be, as we shall see by-and-by, that the baby's mind is not so perfectly simple, so absolutely primitive as it at first looks. Yet it is the simplest type of human consciousness to which we can have access. The investigator of this consciousness can never take any known sample of the animal mind as his starting point if for no other reason for this, that while possessing many of the elements of the human mind, it presents these in so unlike, so peculiar a pattern.

In this genetic tracing back of the complexities of man's mental life to their primitive elements in the child's consciousness, questions of peculiar interest will arise. A problem which though having a venerable antiquity is still full of meaning concerns the precise relation of the higher forms of intelligence and of sentiment to the elementary facts of the individual's life-experience. Are we to regard all our ideas, even those of God, as woven by

the mind out of its experiences, as Locke thought, or have we certain 'innate ideas' from the first? Locke thought he could settle this point by observing children. To-day, when the philosophic emphasis is laid not on the date of appearance of the 'innate' intuition, but on its originality and spontaneity, this method of interrogating the child's mind may seem less promising. Yet if of less philosophical importance than was once supposed, it is of great psychological importance. There are certain questions, such as that of how we come to see things at a distance from us, which can be approached most advantageously by a study of infant movements. In like manner I believe the growth of a moral sentiment, of that feeling of reverence for duty to which Kant gave so eloquent an expression, can only be understood by the most painstaking observation of the mental activities of the first years.

There is, however, another, and in a sense a larger, source of psychological interest in studying the processes and development of the infant mind. It was pointed out above that to the evolutionary biologist the child exhibits man in his kinship to the lower sentient world. This same evolutionary point of view enables the psychologist to connect the unfolding of an infant's mind with something which has gone before, with the mental history of the race. According to this way of looking at infancy the successive phases of its mental life are a brief *résumé* of the more important features in the slow upward progress of the species. The periods dominated successively by sense and appetite, by blind wondering and superstitious fancy, and by a calmer observation and a juster reasoning about things, these steps mark the pathway both of the child-mind and of the race-mind.


This being so, the first years of a child, with their imperfect verbal expression, their crude fanciful ideas, their seizures by rage and terror, their absorption in the present moment, acquire a new and antiquarian interest. They



mirror for us, in a diminished distorted reflection no doubt, the probable condition of primitive man. As Sir John Lubbock and other anthropologists have told us, the intellectual and moral resemblances between the lowest existing races of mankind and children are numerous and close. They will be illustrated again and again in the following studies.

Yet this way of viewing childhood is not merely of antiquarian interest. While a monument of his race, and in a manner a key to its history, the child is also its product. In spite of the fashionable Weismannism of the hour, there are evolutionists who hold that in the early manifested tendencies of the child, we can discern signs of a hereditary transmission of the effects of ancestral experiences and activities. His first manifestations of rage, for example, are a survival of actions of remote ancestors in their life and death struggles. The impulse of obedience, which is as much a characteristic of the child as that of disobedience, may in like manner be regarded as a transmitted rudiment of a long practised action of socialised ancestors. This idea of an increment of intelligence and moral disposition, earned for the individual not by himself but by his ancestors, has its peculiar interest. It gives a new meaning to human progress to suppose that the dawn of infant intelligence, instead of being a return to a primitive darkness, contains from the first a faint light reflected on it from the lamp of racial intelligence which has preceded that instead of a return to the race's starting point, the lowest form of the school of experience, it is a start in a higher form, the promotion being a reward conferred on the child for the exertions of his ancestors. Psychological observation will be well employed in scanning the features of the infant's mind in order to see whether they yield evidence of such ancestral dowering.

So much with respect to the rich and varied scientific interest attaching to the movements of the child's mind.



It only remains to touch on a third main interest in childhood, the practical or educational interest. The modern world, while erecting the child into an object of æsthetic contemplation, while bringing to bear on him the bull's eye lamp of scientific observation, has become sorely troubled by the momentous problem of rearing him. What was once a matter of instinct and unthinking rule-of-thumb has become the subject of profound and perplexing discussion. Mothers—the right sort of mothers that is—feel that they must know *au fond* this wee speechless creature which they are called upon to direct into the safe road to manhood. And professional teachers, more particularly the beginners in the work of training, whose work is in some respects the most difficult and the most honourable, have come to see that a clear insight into child-nature and its spontaneous movements, must precede any intelligent attempt to work beneficially upon this nature. In this way the teacher has lent his support to the savant and the psychologist in their investigation of infancy. More particularly he has betaken him to the psychologist in order to discover more of the native tendencies and the governing laws of that unformed child-mind which it is his in a special manner to form. In addition to this, the growing educational interest in the spontaneous behaviour of the child's mind may be expected to issue in a demand for a *statistic* of childhood, that is to say, carefully arranged collections of observations bearing on such points as children's questions, their first thoughts about nature, their manifestations of sensibility and insensibility.

The awakening in the modern mind of this keen and varied interest in childhood has led, and is destined to lead still more, to the observation of infantile ways. This observation will, of course, be of very different value according as it subserves the contemplation of the humorous or other æsthetically valuable aspect of child-nature,

or as it is directed towards a scientific understanding of this. Pretty anecdotes of children which tickle the emotions may or may not add to our insight into the peculiar mechanism of children's minds. There is no necessary connection between smiling at infantile drolleries and understanding the laws of infantile intelligence. Indeed, the mood of merriment, if too exuberant, will pretty certainly swamp for the moment any desire to understand.

The observation which is to further understanding, which is to be acceptable to science, must itself be scientific. That is to say, it must be at once guided by foreknowledge, specially directed to what is essential in a phenomenon and its surroundings or conditions, and perfectly exact. If anybody supposes this to be easy, he should first try his hand at the work, and then compare what he has seen with what Darwin or Preyer has been able to discover.

How difficult this is may be seen even with reference to the outward physical part of the phenomena to be observed. Ask any mother untrained in observation to note the first appearance of that complex facial movement which we call a smile, and you know what kind of result you are likely to get. The phenomena of a child's mental life, even on its physical and visible side, are of so subtle and fugitive a character that only a fine and quick observation is able to cope with them. But observation of children is never merely seeing. Even the smile has to be interpreted as a smile by a process of imaginative inference. Many careless onlookers would say that a baby smiles in the first days from very happiness, when another and simpler explanation of the movement is forthcoming. Similarly, it wants much fine judgment to say whether an infant is merely stumbling accidentally on an articulate sound, or is imitating your sound. A glance at some of the best memoirs will show how enormously

difficult it is to be sure of a right interpretation of these early and comparatively simple manifestations of mind.<sup>1</sup>

Things grow a great deal worse when we try to throw our scientific lasso about the elusive spirit of a child of four or six, and to catch the exact meaning of its swiftly changing movements. Children are, no doubt, at this age frank before the eye of love, and their minds are vastly more accessible than that of the dumb dog that can only look his ardent thoughts. Yet they are by no means so open to view as is often supposed. All kinds of shy reticences hamper them: they feel unskilled in using our cumbrous language; they soon find out that their thoughts are not as ours, but often make us laugh. And how carefully are they wont to hide from our sight their nameless terrors, physical and moral. Much of the deeper childish experience can only reach us, if at all, years after it is over, through the faulty medium of adult memory—faulty even when it is the memory of a Goethe, a George Sand, a Robert Louis Stevenson.<sup>2</sup>

Even when there is perfect candour, and the little one does his best to instruct us as to what is passing in his mind by his 'whys' and his 'I'sposes,' accompanied by the most eloquent of looks, we find ourselves ever and again unequal to comprehending. Child-thought follows its own paths—roads, as Mr. Rudyard Kipling has well said, "unknown to those who have left childhood behind". The dark sayings of childhood, as when a child

<sup>1</sup> These difficulties seem to me to be curiously overlooked in Prof. Mark Baldwin's recent utterance on child psychology. (*Mental Development in the Child and the Race*, chap. ii.) In this optimistic presentment of the subject there is not the slightest reference to the difficult work of interpretation. Child-study is talked of as a perfectly simple mode of observation, requiring at most to be supplemented by a little experiment, and, it may be added, backed by a firm theory.

<sup>2</sup> In these days of published reminiscences of childhood it is quite refreshing to meet with a book like Mr. James Payn's *Gleams of Memory*, which honestly confesses that its early recollections are almost *nil*.

asks, 'Why am I not somebody else?' will be fully illustrated below.

This being so, it might well seem arrogant to speak of any 'scientific' investigation of the child's mind; and, to be candid, I may as well confess that, in spite of some recently published highly hopeful forecasts of what child-psychology is going to do for us, I think we are a long way off from a perfectly scientific account of it. Our so-called theories of children's mental activity has so often been hasty generalisations from imperfect observation. Children are probably much more diverse in their ways of thinking and feeling than our theories suppose. But of this more presently. Even where we meet with a common and comparatively prominent trait, we are far as yet from having a perfect comprehension of it. I at least believe that children's play, about which so much has confidently been written, is but imperfectly understood. Is it serious business, half-conscious make-believe, more than half-conscious acting, or, no one of these, or all of them by turns? I think he would be a bold man who ventured to answer this question straight away.


In this state of things it might seem well to wait. Possibly by-and-by we shall light on new methods of tapping the childish consciousness. Patients in a certain stage of the hypnotic trance have returned, it is said, to their childish experience and feelings. Some people do this, or appear to do this, in their dreams. I know a young man who revives vivid recollections of the experiences of the third year of life when he is sleepy, and more especially if he is suffering from a cold. These facts suggest that if we only knew more about the mode of working of the brain we might reinstate a special group of conditions which would secure a re-emergence of childish ideas and sentiments.

Yet our case is not so hopeless that we need defer inquiry into the child's mind until human science has fath-

omed all the mysteries of the brain. We can know many things of this mind, and these of great importance, even now. The naturalist discusses the actions of the lower animals, confidently attributing intelligent planning here, and a germ of vanity or even of moral sense there; and it would be hard were we forbidden to study the little people that are of our own race, and are a thousand times more open to inspection. Really good work has already been done here, and one should be grateful. At the same time, it seems to me of the greatest importance to recognise that it is but a beginning: that the child which the modern world has in the main discovered is after all only half discovered: that if we are to get at his inner life, his playful conceits, his solemn broodings over the mysteries of things, his way of responding to the motley show of life, we must carry this work of noting and interpreting to a much higher point.

Now, if progress is to be made in this work, we must have specially qualified workers. All who know anything of the gross misunderstandings of children of which many so-called intelligent adults are capable, will bear me out when I say that a certain gift of penetration is absolutely indispensable here. If any one asks me what the qualifications of a good child-observer amount to, I may perhaps answer, for the sake of brevity, 'a divining faculty, the offspring of child-love, perfected by scientific training'. Let us see what this includes.

That the observer of children must be a diviner, a sort of clairvoyant reader of their secret thoughts, seems to me perfectly obvious. Watch half a dozen men who find themselves unexpectedly ushered into a room tenanted by a small child, and you will soon be able to distinguish the diviners, who, just because they have in themselves something akin to the child, seem able at once to get into touch with children. It is probable that women's acknowledged superiority in knowledge of child-nature is



owing to their higher gift of sympathetic insight. This faculty, so far from being purely intellectual, is very largely the outgrowth of a peculiar moral nature to which the life of all small things, and of children more than all, is always sweet and congenial. It is very much of a secondary, or acquired instinct; that is, an unreflecting intuition which is the outgrowth of a large experience. For the child-lover seeks the object of his love, and is never so happy as when associating with children and sharing in their thoughts and their pleasures. And it is through such habitual intercourse that there forms itself the instinct or tact by which the significance of childish manifestation is at once unerringly discerned.

There is in this tact or fineness of spiritual touch one constituent so important as to deserve special mention. I mean a lively memory of one's own childhood. As I have observed above, I do not believe in an exact and trustworthy reproduction in later life of particular incidents of childhood. All recalling of past experiences illustrates the modifying influence of the later self in its attempt to assimilate and understand the past self; and this transforming effect is at its maximum when we try to get back to childhood. But though our memory of childhood is not in itself exact enough to furnish facts, it may be sufficiently strong for the purposes of interpreting our observations of the children we see about us. It is said, and said rightly, that in order to read a child's mind we need imagination, and since all imagination is merely readjustment of individual experience, it follows that the skilled decipherer of infantile characters needs before all things to be in touch with his own early feelings and thoughts. And this is just what we find. The vivacious, genial woman who is never so much at home as when surrounded by a bevy of eager-minded children is a woman who remains young in the important sense that she retains much of the freshness and unconventionality of mind, much of the gaiety and

expansiveness of early life. Conversely one may feel pretty sure that a woman who retains a vivid memory of her childish ideas and feelings will be drawn to the companionship of children. After reading their autobiographies one hardly needs to be told that Goethe carried into old age his quick responsiveness to the gaiety of the young heart; and that George Sand when grown old was never so happy as when gathering the youngsters about her.<sup>1</sup>

Yet valuable as is this gift of sympathetic insight, it will not, of course, conduce to that methodical, exact kind of observation which is required by science. Hence the need of the second qualification: psychological training. By this is meant that special knowledge which comes from studying the principles of the science, its peculiar problems, and the methods appropriate to these, together with the special skill which is attained by a methodical, practical application of this knowledge in the actual observation and interpretation of manifestations of mind. Thus a woman who wishes to observe to good effect the mind of a child of three must have a sufficient acquaintance with the general course of the mental life to know what to expect, and in what way the phenomena observed have to be interpreted. Really fine and fruitful observation is the outcome of a large knowledge, and anybody who is to carry out in a scientific fashion the observation of the humblest phase of a child's mental life must already know this life as a whole, so far as psychology can as yet describe its characteristics, and determine the conditions of its activity.

And here the question naturally arises: "Who is to carry out this new line of scientific observation?" To begin with the first stage of it, who is to carry out the ex-

<sup>1</sup> Since this was written the authoress of *Little Lord Fauntleroy* has shown us how clear and far-reaching a memory she has of her childish experiences.



act methodical record of the movements of the infant? It is evident that qualification or capacity is not all that is necessary here; capacity must be favoured with opportunity before the work can be actually begun.

It has been pointed out that the pioneers who struck out this new line of experimental research were medical men. The meaning of this fact is pretty apparent. The doctor has not only a turn for scientific observation: he is a privileged person in the nursery. The natural guardians of infancy, the mother and the nurse, exempt him from their general ban on the male. He excepted, no man, not even the child's own father, is allowed to meddle too much with that divine mystery, that meeting point of all the graces and all the beatitudes, the infant.


Consider for a moment the natural prejudice which the inquirer into the characteristics of the infant has to face. Such inquiry is not merely passively watching what spontaneously presents itself; it is emphatically experimenting, that is, the calling out of reactions by applying appropriate stimuli. Even to try whether the new-born babe will close its fingers on your finger when brought into contact with their anterior surface may well seem impious to a properly constituted nurse. To propose to test the wee creature's sense of taste by applying drops of various solutions, as acid, bitters, etc., to the tongue, or to provoke ocular movements to the right or the left, would pretty certainly seem a profanation of the temple of infancy, if not fraught with danger to its tiny deity. And as to trying Dr. Robinson's experiment of getting the newly arrived visitor to suspend his whole precious weight by clasping a bar, it is pretty certain that, women being constituted as at present, only a medical man could have dreamt of so daring a feat.

There is no doubt that baby-worship, the sentimental adoration of infant ways, is highly inimical to the carrying out of a perfectly cool and impartial process of scientific

observation. Hence the average mother can hardly be expected to do more than barely to tolerate this encroaching of experiment into the hallowed retreat of the nursery. Even in these days of rapid modification of what used to be thought unalterable sexual characters, one may be bold enough to hazard the prophecy that women who have had scientific training will, if they happen to become mothers, hardly be disposed to give their minds at the very outset to the rather complex and difficult work, say, of making an accurate scientific inventory of the several modes of infantile sensibility, visual, auditory, and so forth, and of the alterations in these from day to day.

It is for the coarser fibred man, then, to undertake much of the earlier experimental work in the investigation of child-nature. And if fathers will duly qualify themselves they will probably find that permission will little by little be given them to carry out investigations, short, of course, of anything that looks distinctly dangerous to the little being's comfort.

At the same time it is evident that a complete series of observations of the infant can hardly be carried out by a man alone. It is for the mother, or some other woman with a pass-key to the nursery, with her frequent and prolonged opportunities of observation to attempt a careful and methodical register of mental progress. Hence the importance of enlisting the mother or her female representative as collaborateur or at least as assistant. Thus supposing the father is bent on ascertaining the exact dates and the order of appearance of the different articulate sounds, which is rather a subject of passive observation than of active experiment; he will be almost compelled to call in the aid of one who has the considerable advantage of passing a good part of each day near the child.<sup>1</sup>



<sup>1</sup> The great advantage which the female observer of the infant's mind has over her male competitor is clearly illustrated in some recent studies of childhood by American women. I would especially call attention to a study by Miss M. W. Shinn of the University of California

As the wee thing grows and its nervous system becomes more stable and robust more in the way of research may of course be safely attempted. In this higher stage the work of observation will be less simple and involve more of special psychological knowledge. It is a comparatively easy thing to say whether the sudden approach of an object to the eye of a baby a week or so old calls forth the reflex known as blinking: it is a much more difficult thing to say what are the preferences of a child of twelve months in the matter of simple forms, or even colours.

The problem of the order of development of the colour-sense in children looks at first easy enough. Any mother, it may be thought, can say which colours the child first recognises by naming them when seen, or picking them out when another names them. Yet simple as it looks, the problem is in reality anything but simple. A German investigator, Professor Preyer of Berlin, went to work methodically with his little boy of two years in order to see in what order he would discriminate colours. Two colours, red and green, were first shown, the name added to each, and the child then asked: "Which is red?" "Which is green?" Then other colours were added and the experiments repeated. According to these researches this particular child first acquired a clear discriminative awareness of yellow. Preyer's results have not, however, been confirmed by other investigators, as M. Binet of Paris, who followed a similar method of inquiry. Thus according to Binet it is not yellow but blue which carries the day in the competition for the child's preferential recognition.

What, it may be asked, is the explanation of this? Is it that children differ in the mode of development of their

*(Development of a child. Notes on the writer's niece)*, where the minute and painstaking record (*e.g.*, of the child's colour discrimination and visual space exploration) points to the ample opportunity of observation which comes more readily to women.

colour-sensibility to this extent, or can it be that there is some fault in the method of investigation? It has been recently suggested that the mode of testing colour-discrimination by naming is open to the objection that a child may get hold of one verbal sound as 'red' more easily than another as 'green' and that this would facilitate the recognition of the former. If in this way the recognition of a colour is aided by the retention of its name, we must get rid of this disturbing element of sound. Accordingly new methods of experiment have been attempted in France and America. Thus Professor Baldwin investigates the matter by placing two colours opposite the child's two arms and noting which is reached out to by right or left arm, which is ignored. He has tabulated the results of a short series of these simple experiments for testing childish preference, and supports the conclusions of Binet, as against those of Preyer, that blue comes in for the first place in the child's discriminative recognition.<sup>1</sup> It is however easy to see that this method has its own characteristic defects. Thus, to begin with, it evidently does not directly test colour discrimination at all, but the liking for or interest in colours, which though it undoubtedly implies a measure of discrimination must not be confused with this. And even as a test of preference it is very likely to be misapplied. Thus supposing that the two colours are not equally bright, then the child will grasp at one rather than at the other, because it is a brighter object and not because it is this particular colour. Again if one colour fall more into the first and fresh period of the exercise when the child is fresh and active, whereas another falls more into the second period when he is tired and inactive, the results would, it is evident, give too much value to the former. Similarly, if one colour were brought in after longer intervals of time than another it would have more attractive force through its greater novelty.

<sup>1</sup> *Mental Development in the Child and the Race*, chap. iii.

Enough has been said to show how very delicate a problem we have here to deal with. And if scientific men are still busy settling the point how the problem can be best dealt with, it seems hopeless for the amateur to dabble in the matter.

I have purposely chosen a problem of peculiar complexity and delicacy in order to illustrate the importance of that training which makes the mental eye of the observer quick to analyse the phenomenon to be dealt with so as to take in all its conditions. Yet there are many parts of this work of observing the child's mind which do not make so heavy a demand on technical ability, but can be done by any intelligent observer prepared for the task by a reasonable amount of psychological study. I refer more particularly to that rich and highly interesting field of exploration which opens up when the child begins to talk. It is in the spontaneous utterances of children, his first quaint uses of words, that we can best watch the play of the instinctive tendencies of thought. Children's talk is always valuable to a psychologist; and for my part I would be glad of as many anecdotal records of their sayings as I could collect.

Here, then, there seems to be room for a relatively simple and unskilled kind of observing work. Yet it would be a mistake to suppose that even this branch of child-observation requires nothing but ordinary intelligence. To begin with, we are all prone, till by special training we have learned to check the inclination, to read far too much of our older thought and sentiment into children. As M. Drox observes, *nous sommes dupes de nous-mêmes lorsque nous observons ces chers bambins*.<sup>1</sup>

Again, there is a subtle source of error connected with the very attitude of undergoing examination which only a carefully trained observer of childish ways will avoid. A child is very quick in spying whether he is being observed, and as soon as he suspects that you are

<sup>1</sup> *L'Enfant*, p. 142.

specially interested in his talk he is apt to try to produce an effect. This wish to say something startling, wonderful, or what not, will, it is obvious, detract from the value of the utterance.

But once more the saying which it is so easy to report has had its history, and the observer who knows something of psychology will look out for facts, that is to say, experiences of the child, suggestions made by others' words which throw light on the saying. No fact is really quite simple, and the reason why some facts look so simple is that the observer does not include in his view all the connections of the occurrence which he is inspecting. The unskilled observer of children is apt to send scraps, fragments of facts, which have not their natural setting. The value of psychological training is that it makes one as jealously mindful of wholeness in facts as a housewife of wholeness in her porcelain. It is, indeed, only when the whole fact is before us, in well-defined contour, that we can begin to deal with its meaning. Thus although those ignorant of psychology may assist us in this region of fact-finding, they can never accomplish that completer and exacter kind of observation which we dignify by the name of Science.<sup>1</sup>

One may conclude then that women may be fitted to become valuable labourers in this new field of investigation, if only they will acquire a genuine scientific interest in babyhood, and a fair amount of scientific training. That a large number of women will get so far is I think doubtful:

<sup>1</sup> Since writing the above I have had my opinion strongly confirmed by reading a record of sayings of children carried out by women students in an American Normal College (*Thoughts and Reasonings of Children*, classified by H. W. Brown, Teacher of Psychology in State Normal School, Worcester, Mass., with introduction by E. H. Russell, Principal: reprinted from the *Pedagogical Seminary*). Many of the quaint sayings noted down lose much of their psychological point from our complete ignorance of the child's home-experience, companionships, school and training.

the sentimental or æsthetic attraction of the baby is apt to be a serious obstacle to a cold matter-of-fact examination of it as a scientific specimen. The natural delight of a mother in every new exhibition of infantile wisdom or prowess is liable to blind her to the exceedingly modest significance of the child's performances as seen from the scientific point of view. Yet as I have hinted, this very fondness for infantile ways, may, if only the scientific caution is added, prove a valuable excitant to study. In England, and in America, there is already a considerable number of women who have undergone some serious training in psychology, and it may not be too much to hope that before long we shall have a band of mothers and aunts busily engaged in noting and recording the movements of children's minds.

I have assumed here that what is wanted is careful studies of individual children as they may be approached in the nursery. And these records of individual children, after the pattern of Preyer's monograph, are I think our greatest need. We are wont to talk rather too glibly about that abstraction, 'the child,' as if all children rigorously corresponded to one pattern, of which pattern we have a perfect knowledge. Mothers at least know that this is not so. Children of the same family will be found to differ very widely (within the comparatively narrow field of childish traits), as, for example, in respect of matter-of-factness, of fancifulness, of inquisitiveness. Thus, while it is probably true that most children at a certain age are greedy of the pleasures of the imagination, Nature in her well-known dislike of monotony has taken care to make a few decidedly unimaginative. We need to know much more about these variations: and what will best help us here is a number of careful records of infant progress, embracing examples not only of different sexes and temperaments, but also of different social conditions and nationalities. When we have such a collection of

monographs we shall be in a much better position to fill out the hazy outline of our abstract conception of childhood with definite and characteristic lineaments.

At the same time I gladly allow that other modes of observation are possible and in their way useful. This applies to older children who pass into the collective existence of the school-class. Here something like collective or statistical inquiry may be begun, as that into the contents of children's minds, their ignorances and misapprehensions about common objects. Some part of this inquiry into the minds of school-children may very well be undertaken by an intelligent teacher. Thus it would be valuable to have careful records of children's progress carried out by pre-arranged tests, so as to get collections of examples of mental activity at different ages. More special lines of inquiry having a truly experimental character might be carried out by experts, as those already begun with reference to children's "span of apprehension," *i.e.*, the number of digits or nonsense syllables that can be reproduced after a single hearing, investigations into the effects of fatigue on mental processes, into the effect of number of repetitions on the certainty of reproduction, into musical sensitiveness and so forth.

Valuable as such statistical investigation undoubtedly is, it is no substitute for the careful methodical study of the individual child. This seems to me the greatest desideratum just now. Since the teacher needs for practical reasons to make a careful study of individuals he might well assist here. In these days of literary collaboration it might not be amiss for a kindergarten teacher to write an account of a child's mind in co-operation with the mother. Such a record if well done would be of the greatest value. The co-operation of the mother seems to me quite indispensable, since even where there is out-of-class intercourse between teacher and pupil the knowledge acquired by the former never equals that of the mother.



## II.

### THE AGE OF IMAGINATION.

#### *Why we call Children Imaginative.*

ONE of the few things we seemed to be certain of with respect to child-nature was that it is fancy-full. Childhood, we all know, is the age for dreaming, for decking out the world as yet unknown with the gay colours of imagination ; for living a life of play or happy make-believe. So that nothing seems more to characterise the 'Childhood of the World' than the myth-making impulse which by an overflow of fancy seeks to hide the meagreness of knowledge.

Yet even here, perhaps, we have been content with loose generalisation in place of careful observation and analysis of facts. For one thing, the play of infantile imagination is probably much less uniform than is often supposed. There seem to be matter-of-fact children who cannot rise buoyantly to a bright fancy. Mr. Ruskin, of all men, has recently told us that when a child he was incapable of acting a part or telling a tale, that he never knew a child "whose thirst for visible fact was at once so eager and so methodic".<sup>1</sup> We may accept the report of Mr. Ruskin's memory as proving that he did not idle away his time in day-dreams, but, by long and close observation of running water, and the like, laid the foundations of that fine knowledge of the appearances of nature which everywhere shines through his writings. Yet one may be permitted to doubt

<sup>1</sup> *Præterita*, p. 76.

whether a writer who shows not only so rich and graceful a style but so truly poetic an invention could have been *in every respect* an unimaginative child.

Perhaps the truth will turn out to be the paradox that most children are at once matter-of-fact observers *and* dreamers, passing from the one to the other as the mood takes them, and with a facility which grown people may well envy. My own observations go to show that the prodigal out-put of fancy, the revelling in myth and story, is often characteristic of one period of childhood only. We are apt to lump together such different levels of experience and capacity under that abstraction 'the child'. The wee mite of three and a half, spending more than half his days in trying to realise all manner of pretty, odd, startling fancies about animals, fairies, and the rest, is something vastly unlike the boy of six or seven, whose mind is now bent on understanding the make and go of machines, and of that big machine, the world.

So far as I can gather from inquiries sent to parents and other observers of children, a large majority of boys and girls alike are for a time fancy-bound. A child that did not want to play and cared nothing for the marvels of story-land would surely be regarded as queer and not just what a child ought to be. Yet, supposing that this is the right view, there still remains the question whether imagination always works in the same way in the childish brain. Science is beginning to aid us in understanding the differences of childish fancy. For one thing it is leading us to see that a child's whole imaginative life may be specially coloured by the preponderant vividness of a certain order of images, that one child may live imaginatively in a coloured world, another in a world of sounds, another rather in a world of movements. It is easy to note in the case of certain children of the more lively and active turn, how the supreme interest of story as of play lies in the ample range of movement and bodily activity. Robinson

Crusoe is probably for the boyish imagination, more than anything else, the goer and the doer.<sup>1</sup>

With this difference in the elementary constituents of imagination, there are others which turn on temperament, tone of feeling, and preponderant directions of emotion. Imagination is intimately bound up with the life of feeling, and will assume as many directions as this life assumes. Hence, the familiar fact that in some children imagination broods by preference on gloomy and terrifying objects, religious and other, whereas in others it selects what is bright and gladsome; that while in some cases it has more of the poetic quality, in others it leans rather to the scientific or to the practical type.

Enough has been said perhaps to show that the imaginativeness of children is not a thing to be taken for granted as existing in all children alike. It is eminently a variable faculty requiring a special study in the case of each new child.

But even waiving this fact of variability it may, I think, be said that we are far from understanding the precise workings of imagination in children. We talk, for example, glibly about their play, their make-believe, their illusions; but how much do we really know of their state of mind when they act out a little scene of domestic life, or of the battle-field? We have, I know, many fine observations on this head. Careful observers of children and conservers of their own childish experiences, such as Rousseau, Pestalozzi, Jean Paul, Madame Necker, George Sand, R. L. Stevenson, tell us much that is valuable: yet I suspect that there must be a much wider and finer investigation of children's action and talk before we can feel

<sup>1</sup> The different tendencies of children towards visual, auditory, motor images, etc., are dealt with by F. Queyrat, *L'Imagination et ses variétés chez l'enfant*. Cf. an article by W. H. Burnham, "Individual Differences in the Imagination of Children," *Pedagogical Seminary*, ii, 2.

quite sure that we have got at their mental whereabouts, and know how they feel when they pretend to enter the dark wood, the home of the wolf, or to talk with their deities, the fairies.

Perhaps I have said enough to justify my plea for new observations and for a reconsideration of hasty theories in the light of these. Nor need we object to a fresh survey of what is perhaps the most delightful side of child-life. I often wonder indeed when I come across some precious bit of droll infantile acting, or of sweet child-soliloquy, how mothers can bring themselves to lose one drop of the fresh exhilarating draught which daily pours forth from the fount of a child's phantasy.

Nor is it merely for the sake of its inherent charm that children's imagination deserves further study. In the early age of the individual and of the race what we enlightened persons call fancy has a good deal to do with the first crude attempts at understanding things. Child-thought, like primitive folk-thought, is saturated with myth, vigorous phantasy holding the hand of reason—as yet sadly rickety in his legs—and showing him which way he should take. In the moral life again, we shall see how easily the realising force of young imagination may expose it to deception by others, and to self-deception too, with results that closely simulate the guise of a knowing falsehood. On the other hand a careful following out of the various lines of imaginative activity may show how † moral education, by vividly suggesting to the child's imagination a worthy part, a praiseworthy action, may work powerfully on the unformed and flexible structure of his young will, moving it dutywards.

#### *Imaginative Transformation of Objects.*

The play of young imagination meets us in the domain of sense-observation : a child is fancying when he looks at things and touches them and moves among them.

This may seem a paradox at first, but in truth there is nothing paradoxical here. It is an exploded psychological fallacy that sense and imagination are wholly apart. No doubt, as the ancients told us, phantasy follows and is the offspring of sense: we live over again in waking and sleeping imagination the sights and sounds of the real world. Yet it is no less true that imagination in an active constructive form takes part in the very making of what we call sense-experience. We *read* the visual symbol, say, a splash of light or colour, now as a stone, now as a pool of water, just because imagination drawing from past experience supplies the interpretation, the group of qualities which composes a hard solid mass, or a soft yielding liquid.

A child's fanciful reading of things, as when he calls the twinkling star a (blinking) eye, or the dew-drops on the grass tears, is but an exaggeration of what we all do. His imagination carries him very much farther. Thus he may attribute to the stone he sees a sort of stone-soul, and speak of it as feeling tired of a place.

This lively way of envisaging objects is, as we know, similar to that of primitive folk, and has something of crude nature-poetry in it. This tendency is abundantly illustrated in the metaphors which play so large a part in children's talk. As all observers of them know they are wont to describe what they see or hear by analogy to something they know already. This is called by some, rather clumsily I think, apperceiving. For example, a little boy of two years and five months, on looking at the hammers of a piano which his mother was playing, called out: 'There is owlegie' (diminutive of owl). His eye had instantly caught the similarity between the round felt disc of the hammer divided by a piece of wood, and the owl's face divided by its beak. In like manner the boy C. called a small oscillating compass-needle a 'bird' on the ground of its

slightly bird-like form, and of its fluttering movement.<sup>1</sup> Pretty conceits are often resorted to in this assimilation of the new and strange to the familiar, as when a child seeing dew on the grass said, 'The grass is crying,' or when stars were described as "cinders from God's star," and butterflies as "pansies flying".<sup>2</sup> Other examples of this picturesque mode of childish apperception will meet us below.

This play of imagination in connexion with apprehending objects of sense has a strong vitalising or personifying element. That is to say, the child sees what we regard as lifeless and soulless as alive and conscious. Thus he gives not only body but soul to the wind when it whistles or howls at night. The most unpromising things come in for this warming vitalising touch of the child's fancy. He will make something like a personality out of a letter. Thus one little fellow aged one year eight months conceived a special fondness for the letter W, addressing it thus: 'Dear old boy W'. Another little boy well on in his fourth year, when tracing a letter L happened to slip so that the horizontal limb formed an angle thus,  $\angle$ . He instantly saw the resemblance to the sedentary human form and said: "Oh, he's sitting down". Similarly when he made an F turn the wrong way and then put the correct form to the left thus, F  $\bar{I}$ , he exclaimed: "They're talking together".

Sometimes this endowment of things with feeling leads to a quaint manifestation of sympathy. Miss Ingelow writes of herself: When a little over two years old, and for about a year after "I had the habit of attributing intelligence not only to all living creatures, the same amount and kind of intelligence that I had myself, but even to stones and manufactured articles. I used to feel

<sup>1</sup> The references to the child C. are to the subject of the memoir given below, chap. xi.

<sup>2</sup> W. H. Burnham, *loc. cit.*, p. 212 f.

how dull it must be for the pebbles in the causeway to be obliged to lie still and only see what was round about. When I walked out with a little basket for putting flowers in I used sometimes to pick up a pebble or two and carry them on to have a change: then at the farthest point of the walk turn them out, not doubting that they would be pleased to have a new view."<sup>1</sup>

This is by no means a unique example of a quaint childish expression of pity for what we think the insentient world. Plant-life seems often to excite the feeling. Here is a quotation from a parent's chronicle: "A girl aged eight, brings a quantity of fallen autumn leaves in to her mother, who says, 'Oh! how pretty, F.!' to which the girl answers: 'Yes, I knew you'd love the poor things, mother, I couldn't bear to see them dying on the ground'. A few days afterwards she was found standing at a window overlooking the garden crying bitterly at the falling leaves as they fell in considerable numbers."

I need not linger on the products of this vitalising and personifying instinct, as we shall deal with them again when inquiring into children's ideas about nature. Suffice it to say that it is wondrously active and far-reaching, constituting one chief manifestation of childish fancy.

Now it may be asked whether all this analogical extension of images to what seem to us such incongruous objects involves a vivid and illusory apprehension of these as transformed. Is the eyelid realised and even *seen* for the moment as a sort of curtain, the curtain-image blending with and transforming what is present to the eye? Are the pebbles actually viewed as living things condemned to lie stiffly in one place? It is of course hard to say, yet I think a conjectural answer can be given. In this imaginative contemplation of things the child but half observes what is present to his eyes, one or two points only of supreme

<sup>1</sup> See her article, "The History of an Infancy," *Longman's Magazine*, Feb., 1890.

interest in the visible thing, whether those of form, as in assimilating the piano-hammer to the owl, or of action, as the *falling* of the leaf, being selectively alluded to: while assimilative imagination overlaying the visual impression with the image of a similar object does the rest. In this way the actual field of objects is apt to get veiled, transformed by the wizard touch of a lively fancy.

No doubt there are various degrees of illusion here. In his matter-of-fact and really scrutinising mood a child will not confound what is seen with what is imagined: in this case the analogy recalled is distinguished and used as an explanation of what is seen—as when C. observed of the panting dog: ‘Dat bow-wow like puff-puff’. On the other hand when another little boy aged three years and nine months seeing the leaves falling exclaimed, “See, mamma, the leaves is flying like dickey-birds and little butterflies,” it is hard not to think that the child’s fancy for the moment transformed what he saw into these pretty semblances. And one may risk the opinion that, with the little thinking power and controlling force of will which a child possesses, such assimilative activity of imagination always tends to develop a degree of momentary illusion. There is, too, as we shall see later on, abundant evidence to show that children at first quite seriously believe that most things, at least, are alive and have their feelings.

There is another way in which imagination may combine with and transform sensible objects, *viz.*, by what is commonly called association. Mr. Ruskin tells us that when young he associated the name ‘crocodile’ with the creature so closely that the long series of letters took on something of the look of its lanky body. The same writer speaks of a Dr. Grant, into whose therapeutic hands he fell when a child. “The name (he adds) is always associated in my mind with a brown powder



—rhubarb or the like—of a gritty or acrid nature. . . . The name always sounded to me gr-r-ish and granular.”

We can most of us perhaps, recall similar experiences, where colours and sounds, in themselves indifferent, took on either through analogy or association a decidedly repulsive character. How far, one wonders, does this process of transformation of things go in the case of imaginative children? There is some reason to say that it may go very far, and that, too, when there is no strong feeling at work cementing the combined elements. A child's feeling for likeness is commonly keen and subtle, and knowledge of the real relations of things has not yet come to check the impulse to this free far-ranging kind of assimilation. Before the qualities and the connexions of objects are sufficiently known for them to be interesting in themselves, they can only acquire interest through the combining art of childish fancy. And the same is true of associated qualities. A child's ear may not dislike a grating sound, a harsh noise, as our ear dislikes it, merely because of its effect on the sensitive organ. *En revanche* it will like and dislike sounds for a hundred reasons unknown to us, just because the quick strong fancy adding its life to that of the senses gives to their impressions much of their significance and much of their effect.

There is one new field of investigation which is illustrating in a curious way the wizard influence wielded by childish imagination over the things of sense. It is well known that a certain number of people habitually ‘colour’ the sounds they hear, imagining, for example, the sound of a vowel, or of a musical tone, to have its characteristic tint which they are able to describe accurately. This ‘coloured hearing,’ as it is called, is always traced back to the dimly recalled age of childhood. Children are now beginning to be tested and it is found that a good proportion possess the faculty. Thus, in some researches on the minds of Boston school-children, it was found that twenty-

one out of fifty-three, or nearly 40 per cent., described the tones of certain instruments as coloured.<sup>1</sup> The particular colour ascribed to an instrument, as also the degree of its brightness, though remaining constant in the case of the same child, varied greatly among different children, so that, for example, one child 'visualised' the tone of a fife as pale or bright, while another imaged it as dark.<sup>2</sup> It is highly probable that both analogy and association play a part here.<sup>3</sup> As was recently suggested to me by a correspondent the instance given by Locke of the analogy between scarlet and the note of a trumpet may easily be due in part at least to association of the tone with the scarlet uniform.

I may add that I once happened to overhear a little girl of six talking to herself about numbers in this wise: "Two is a dark number," "forty is a white number". I questioned her and found that the digits had each its distinctive colour; thus one was white; two, dark; three, white; four, dark; five, pink; and so on. Nine was pointed and dark, eleven dark green, showing that some of the digits were much more distinctly visualised than others. Just three years later I tested her again and found she still visualised the digits, but not quite in the same way. Thus although one and two were white and black and five pink as before, three was now grey, four was red, nine had lost its colour, and eleven oddly enough had turned from dark green to bright yellow. This case suggests that in early life new experiences and associations may modify the tint and shade of sounds. However this be, children's coloured hearing is

<sup>1</sup> See the article by G. Stanley Hall, "The Contents of Children's Minds," *Princeton Review*. New Series, 1883. Cf. the same writer's volume, *The Contents of Children's Minds on entering School*, 1894.

<sup>2</sup> *Ibid.*, p. 265.

<sup>3</sup> This has been well brought out by Professor Flournoy of Geneva in his volume *Des Phénomènes de Synopsie* (audition colorée), chap. ii.

worth noting as the most striking example of the general tendency to overlay impressions of the senses with vivid images. It seems reasonable to suppose that coloured hearing and other allied phenomena, as the picturing of numbers, days of the week, etc., in a certain scheme or diagrammatic arrangement, when they show themselves after childhood are to be viewed as survivals of early fanciful brain-work. This fact taken along with the known vividness of the images in coloured hearing, which in certain cases approximate to sense-perceptions, seems to me to confirm the view here put forth that children's imagination may alter the world of sense in ways which it is hard for our older and stiff-jointed minds to follow.

I have confined myself here to what I have called the *play* of imagination, the magic transmuting of things through the sheer liveliness and wanton activity of childish fancy. How strong, how vivid, how dominating such imaginative transformation may become will of course be seen in cases where violent feeling, especially fear, gives preternatural intensity to the mind's realising power. But this will be better considered later on.

This transformation of the actual surroundings is of course restrained in serious moments, and in intercourse with older and graver folk. There is, however, a region of child-life where it knows no check, where the impulse to deck out the shabby reality with what is bright and gay has all its own way. This region is *Play*.

### *Imagination and Play.*

The interest of child's play in the present connexion lies in the fact that it is the working out into visible shape of an inner fancy. The actual presentation may be the starting-point of this process of imaginative projection: the child, for example, sees the sand, the shingle and shells, and says, 'Let us play keeping a shop'. Yet this is accidental. The

source of play is the impulse to realise a bright idea: whence, as we shall see by-and-by, its close kinship to art as a whole. This image is the dominating force, it is for the time a veritable *idée fixe*, and everything has to accommodate itself to this. Since the image has to be acted out, it comes into collision with the actual surroundings. Here is the child's opportunity. The floor is instantly mapped out into two hostile territories, the sofa-end becomes a horse, a coach, a ship, or what not, to suit the exigencies of the play.

This stronger movement and wider range of imagination in children's pastime is explained by the characteristic and fundamental impulse of play, the desire to be something, to act a part. The child-adventurer as he personates Robinson Crusoe or other hero steps out of his every-day self and so out of his every-day world. In realising his part he virtually transforms his surroundings, since they take on the look and meaning which the part assigns to them. This is prettily illustrated in one of Mr. Stevenson's child-songs, "The Land of Counterpane," in which a sick child describes the various transformations of the bed-scene :—

And sometimes for an hour or so  
I watched my leaden soldiers go,  
With different uniforms and drills,  
Among the bed-clothes through the hills;

And sometimes sent my ships in fleets,  
All up and down among the sheets ;  
Or brought my trees and houses out,  
And planted cities all about.

Who can say to how many and to what strange play-purposes that stolid unyielding-looking object a sofa-head has been turned by the ingenuity of the childish brain?

✓ The impulse to act a part meets us very early and grows out of the assimilative instinct. The very infant

will, if there is a cup to hand, pretend to drink out of it.<sup>1</sup> Similarly a boy of two will put the stem of his father's pipe into, or, if cautious, near his mouth, and make believe that he is smoking. A little boy not yet two years old would spend a whole wet afternoon "painting" the furniture with the dry end of a bit of rope. In such cases, it is evident, the playing may start from a suggestion supplied by the sight of an object. There is no need to suppose that in this simple kind of imitative play children knowingly act a part. It is surely to misunderstand the essence of play to speak of it as a fully conscious process of imitative acting.<sup>2</sup> A child is one creature when he is truly at play, another when he is bent on astonishing or amusing you. It seems sufficient to say that when at play he is possessed by an idea, and is working this out into visible action. Your notice, your laughter, may bring in a new element of enjoyment; for as we all know, children are apt to be little actors in the full sense, and to aim at producing an impression. Yet the child as little *needs* your flattering observation as the cat needs it, when he plays in the full sense imaginatively, and in make-believe, with his captured mouse, placing it, for example, deliberately under a copper in the scullery, and amusing himself by the half-illusion of losing it. Indeed your intrusion will be just as likely to destroy or at least to diminish the charm of a child's play, if only through your inability to seize his idea, and, what is equally important, to rise to his own point of enthusiasm and illusive realisation. Perhaps, indeed, one may say that the play-instinct is most vigorous and dominant when a child is alone, or at least self-absorbed; for even social play, delightful as it is when all

<sup>1</sup> Of course, as Preyer suggests, this drinking from an empty cup may at first be due to a want of discriminative perception.

<sup>2</sup> M. Compayré seems to go too far in this direction when he talks of the child's play with its doll as a charming comedy of maternity (*L' Evolution intell. et morale de l'Enfant*, p. 274).

the players are attuned, is subject to disturbance through a want of mutual comprehension and a need of half-disillusive explanations.<sup>1</sup>

✓ The essence of children's play is the acting of a part and the realising of a new situation. It is thus, as we shall see more fully by-and-by, akin to dramatic action, only that the child's 'acting' is like M. Jourdain's prose, an unconscious art. The impulse to be something, a sailor, a soldier, a path-finder, or what not, absorbs the child and makes him forget his real surroundings and his actual self. His day-dreams, his solitary and apparently listless wanderings while he mutters mystic words to himself, all illustrate this desire to realise a part. In this playful self-projection a child will become even something non-human, as when he nips the 'bread-and-cheese' shoots off the bushes and fancies himself a horse.<sup>2</sup> It is to be noted that such passing out of one's ordinary self and assuming a foreign existence is confined to the child-player; the cat or the dog, though able, as Mr. Darwin and others have shown, to go through a kind of make-believe game, remaining always within the limits of his ordinary self.

Such play-like transmutation of the self extends beyond what we are accustomed to call play. One little boy of three and a half years who was fond of playing at the useful business of coal-heaving would carry his coal-heaver's dream through the whole day, and on the particular day devoted to this calling would not only refuse to be addressed by any less worthy name, but ask in his prayer to be made a good coal-heaver (instead of the usual 'good boy'). On other days this child lived the life of a robin redbreast, a soldier, and so forth, and bitterly resented his mother's occasional confusion of his personalities. A little

<sup>1</sup> For a good illustration of the disillusioning effect of want of enthusiasm in one's playmates, see Tolstoi, *Childhood, Boyhood, Youth*, part i., chap. viii.

<sup>2</sup> *Uninitiated*, p. 10.

girl aged only one year and ten months insisted upon being addressed by a fancy name, Isabel, when she was put to bed, but would not be called by this name at any other time. She probably passed into what seemed to her another person when she went to bed and gave herself up to sweet 'hypnagogic' reverie.

In the working out of this impulse to realise a part the actual external surroundings may take a surprisingly small part. Sometimes there is scarcely any adjustment of scene: the child plays out his action with purely imaginary surroundings. Such simple play-actions as going to market to buy imaginary apples occur very early, one mother assuring me that all her children carried them out in the second year before they could talk. Another mother writes of her boy, aged two and a half years: "He amuses himself by pretending things. He will fetch an imaginary cake from a corner, rake together imaginary grass, or fight a battle with imaginary soldiers." This reminds one of Mr. Stevenson's lines:—

It is he, when you play with your soldiers of tin,  
Who sides with the French and who never can win.

This impulse to invent imaginary surroundings, and more especially to create mythical companions, is very common among lonely and imaginative children. A lady friend, a German, tells me that when she was a little girl, a lonely one of course, she invented a kind of *alter ego*, another girl rather older than herself, whom she named 'Krofa'—why she has forgotten. She made a constant playmate of her, and got all her new ideas from her. Mr. Canton's little heroine took to nursing an invisible 'iccle gaal' (little girl), the image of which she seemed able to project into space.<sup>1</sup> The invention of fictitious persons fills a large space in child-life. Perhaps

<sup>1</sup> *The Invisible Playmate*, p. 33 ff.

if only the young imagination is strong enough there is, as already hinted, more of sweet illusion, of a warm grasp of living reality in this solitary play, where fictitious companions perfectly obedient to the little player's will take the place of less controllable tangible ones. But such purely imaginative make-believe, which derives no help from actual things, is perhaps hardly 'play' in the full sense, but rather an active form of day-dreaming or romancing.<sup>1</sup>

In much of this playful performance all the interference with actual surroundings that the child requires is change of place or scene. Here is a pretty example of this simple type of imaginative play. A child of twenty months, who is accustomed to meet a *bonne* and child in the Jardin du Luxembourg, suddenly leaves the family living-room, pronouncing indifferently well the names Luxembourg, nurse, and child. He goes into the next room, pretends to say "good-day" to his two out-door acquaintances, and then returns and simply narrates what he has been doing.<sup>2</sup> Here the simple act of passing into an adjoining room was enough to secure the needed realisation of the encounter in the garden. The movement into the next room is suggestive. Primarily it meant no doubt the child's manner of realising the out-of-door walk; yet I suspect there was another motive at work. Children love to enact their little play-scenes in some remote spot, withdrawn from notice, where imagination suffers no let from the interference of

<sup>1</sup> I fail to understand what Professor Mark Baldwin means by saying that an only child is wanting in imagination (*op. cit.*, p. 358). In his emphasising of the influence of imitation and external suggestion the writer seems to have overlooked the rather obvious fact that childish imagination in its intenser and more energetic forms means a detachment from the sensible world, and that lonely children are, as more than one autobiography, as well as mother's record, show, particularly imaginative just because of the absence of engaging activities in the real world.

<sup>2</sup> Egger quoted by Compayré, *op. cit.*, pp. 149, 150.



mother, nurse, or other member of the real environment. How many a thrilling exciting play has been carried out in a corner, especially if it be dark, or better still, screened off. The fascination of curtained spaces, as those behind the window curtains, or under the table with the table-cloth hanging low, will be fresh in the memory of all who can recall their childhood.

A step towards a more realistic kind of play-action, in which, as in the modern theatre, imagination is propped up by strong stage effects, is taken when a scene is constructed, the chairs and sofa turned into ships, carriages, a railway train, and so forth.

Yet, after all, the scene is but a very subordinate part of the play. Next to himself in his new part, proudly enjoying the consciousness of being a general, or a school-mistress, a child who is not content with the pure creations of his phantasy requires the semblance of living companions. In all play he desires somebody, if only a listener to his talk in his new character; and when he does not rise to an invisible auditor, he will talk to such unpromising things as a sponge in the bath, a fire-shovel, a clothes' prop in the garden, and so forth. In more active play, where something has to be done, he generally desires a full companion and assistant, human or animal. And here we meet with what is perhaps the most interesting feature of childish play, the transmutation of the most meagre and least promising of things into complete living forms. already alluded to the sofa-head. How many for animal life, vigorous and untiring, from the patient up to the untamed horse of the prairies, has this looking ridge served to image forth to quick perception.

The introduction of these living things seems to illustrate the large compass of the child's realising power. Mr. Ruskin speaks somewhere of "the perfection of child-like imagination, the power of making everything out of

nothing". "The child," he adds, "does not make a pet of a mechanical mouse that runs about the floor. . . . The child falls in love with a quiet thing—with an ugly one—nay, it may be with one to us totally devoid of meaning. The *besoin de croire* precedes the *besoin d'aimer*."

The quotation brings us to the focus where the rays of childish imagination seem to converge, the transformation of toys.

✓ The fact that children make living things out of their toy horses, dogs and the rest, is known to every observer of their ways. To the natural unsceptical eye the boy on his rudely carved "gee-gee" slashing the dull flank with all a boy's glee, looks as if he were realising the joy of actual riding, as if he were possessed with the fancy that the stiff least organic-looking of structures which he strides is a very horse.

The liveliness of this realising imagination is seen in the extraordinary poverty and meagreness of the toys which to their happy possessors are wholly satisfying. Here is a pretty picture of child's play from a German writer:—

There sits a little charming master of three years before his small table busied for a whole hour in a fanciful game with shells. He has three so-called snake-heads in his domain; a large one and two smaller ones: this means two calves and a cow. In a tiny tin dish the little farmer has put all kinds of petals, that is the fodder for his numerous and fine cattle. . . . When the play has lasted a time the fodder-dish transforms itself into a heavy waggon with hay: the little shells now become little horses, and are put to the shafts to pull the terrible load.

The doll takes a supreme place in this fancy realm of play. It is human and satisfies higher instincts and emotions. As the French poet says, the little girl—

Rêve el nom de mère en berçant sa poupée.<sup>1</sup>

<sup>1</sup> Goltz, *Buch der Kindheit*, pp. 4, 5.

I read somewhere recently that the doll is a plaything for girls only: but boys, though they often prefer india-rubber horses and other animals, not infrequently go through a stage of doll-love also, and are hardly less devoted than girls. Endless is the variety of *rôle* assigned to the doll as to the tiny shell in our last picture of play. The doll is the all-important comrade in that *solitude à deux* of which the child, like the adult, is so fond. Mrs. Burnett tells us that sitting holding her doll in the arm-chair of the parlour she would sail across enchanted seas to enchanted islands having all sorts of thrilling adventures. At another time when she wanted to act an Indian chief the doll just as obediently took up the part of squaw.

Very humanely, on the whole, is the little doll-lover wont to use her pet, even though, as George Sand reminds us, there come moments of rage and battering.<sup>1</sup> A little boy of two and a half years asked his mother one day: "Will you give me all my picture-books to show dolly? I don't know which he will like best." He then pointed to each and looked at the doll's face for the answer. He made believe that it selected one, and then gravely showed it all the pictures, saying: "Look here, dolly!" and carefully explaining them.

The doll illustrates the childish attitude towards all toys, the impulse to take them into the innermost and warmest circle of personal intimacy, to make them a living part of himself. A child's language, as we shall see later, points to an early identification of self with belongings. The 'me' and the 'my' are the same, or nearly the same, to a mite of three. This impulse to attach the doll to self, or to embrace it within the self-consciousness or self-feeling, shows itself in odd ways. In the grown-up child, Laura Bridgman, it took the form of putting a bandage like her own over her doll's eyes. This resembles a case of

<sup>1</sup> See the study of George Sand's childhood below, chap. xii.

a girl of six, who when recovering from measles was observed to be busily occupied with her dolls, each of which she painted over with bright red spots. The dolly must do all, and be all that I am: so the child in his warm attachment seems to argue. This feeling of oneness is strengthened by that of exclusive possession, the sense that the child himself is the only one who really knows dolly, can hear her cry when she cries and so forth.<sup>1</sup> It is another manifestation of the same feeling of intimacy and solidarity when a child insists on dolly's being treated by others as courteously as himself. Children will often expect the mother or nurse to kiss and say good-night to their pet or pets—for their hearts are capacious—when she says good-night to themselves.

Here, nobody can surely doubt, we have clearest evidence of play-illusion. The lively imagination endows the inert wooden thing with the warmth of life and love. How large a part is played here by the alchemist, fancy, is known to all observers of children's playthings. The faith and the devotion often seem to increase as the first meretricious charms, the warm tints of the cheek and the lips, the well-shaped nose, the dainty clothes, prematurely fade, and the lovely toy which once kept groups of hungry-looking children gazing long at the shop-window, is reduced to the naked essence of a doll. A child's constancy to his doll when thus stript of exterior charms and degraded to the lowest social stratum of doll-dom is one of the sweetest and most humorous things in child-life.

And then what rude unpromising things are adopted as doll-pets. Mrs. Burnett tells us she once saw a dirty mite sitting on a step in a squalid London street, cuddling warmly a little bundle of hay tied round the middle by a string. Here, surely, the *besoin d'aimer* was little if anything behind the *besoin de croire*.

<sup>1</sup> Cf. Perez, *L'Art et la Poésie chez l'enfant*, p. 28.

Do any of us really understand this doll-superstition? Writers of a clear long-reaching memory have tried to take us back to childhood, and restore to us for a moment the whole undisturbed trust, the perfect satisfaction of love, which the child brings to its doll. Yet even the imaginative genius of a George Sand is hardly equal, perhaps, to the feat of resuscitating the buried companion of our early days and making it live once more before our eyes.<sup>1</sup> The truth is the doll-illusion is one of the first to pass. There are, I believe, a few sentimental girls who, when they attain the years of enlightenment, make a point of saving their dolls from the general wreckage of toys. Yet I suspect the pets when thus retained are valued more for the outside charm of pretty face and hair, and still more for the lovely clothes, than for the inherent worth of the doll itself, of what we may call the doll-soul which informs it and gives it, for the child, its true beauty and its worth.

Yet if we cannot get inside the old doll-superstition we may study it from the outside, and draw a helpful comparison between it and other known forms of naive credulity. And here we have the curious fact that the doll exists not only for the child but for the "nature man". Savages, Sir John Lubbock tells us,<sup>2</sup> like toys, such as dolls, Noah's Arks, etc. The same writer remarks that the doll is "a hybrid between the baby and the fetish, and that it exhibits the contradictory characters of its parents". Perhaps the changes of mood towards the doll, of which George Sand writes, illustrate the alternating preponderance of the baby and the fetish half. But as Sir John also remarks, this hybrid is singularly unintelligible to grown-up people, and it seems the part of modesty here to bow to one of nature's mysteries.

It has been suggested to me by Mr. F. Galton that a

<sup>1</sup> For her remarkable analysis of the child's feeling for his doll, see below, chap. xii.

<sup>2</sup> *Origin of Civilisation*, appendix, p. 521.

useful inquiry might be carried out into the relation between a child's preference in the matter of doll or other toy and the degree of his imaginativeness as otherwise shown, *e.g.*, in craving for story, and in romancing. So far as I have inquired I am disposed to think that such a relation exists. A lady who has had a large experience as a Kindergarten teacher tells me that children who play with rough shapeless things, and readily endow with life the ball, and so forth, in Kindergarten games are imaginative in other ways. Here is an example :—

P. Mc. L., a girl, observed from three and a half to five years of age, was a highly imaginative child as shown by the power of make-believe in play. The ball of soft india-rubber was to her on the teacher's suggestion, say, a baby, and on it she would lavish all her tenderness, kissing it, feeding it, washing its face, dressing it in her pinafore, etc. So thorough was her delight in the play that the less imaginative children around her would suspend their play at 'babies' and watch her with interest. Whilst a most indifferent restless child at lessons, whenever a story was told she sat motionless and wide-eyed till the close.

Children sometimes make babies of their younger brothers and sisters, going through all the sweet solicitous offices which others are wont to carry out on their dolls.<sup>1</sup> This suggests another and closely related question: Do the more imaginative children prefer the inert, ugly doll to the living child in these nursing pastimes? What is the real relation in the child's play between the toy-companion, the doll or india-rubber dog, and the living companion? Again, a child will occasionally play with an imaginary doll.<sup>2</sup> How is this impulse related to the other two forms of doll-passion? These points would well repay a careful investigation.

The vivification of the doll or toy animal is the out-

<sup>1</sup> Baldwin gives a pretty example of this, *op. cit.*, p. 362.

<sup>2</sup> An example is given by Paola Lombroso, *Psicologia del Bambino*, p. 126.

come of the play-impulse, and this, as we have seen, is an impulse to act out, to realise an idea in outward show. The absorption in the idea and its outward expression serves, as in the case of the hypnotised subject, to blot out the incongruities of scene and action which you or I, a cold observer, would note. The play-idea works transformingly by a process analogous to what is called auto-suggestion.

How complete this play-illusion may become here can be seen in more ways than one. We see it in the jealous insistence already illustrated that everything shall for the time pass over from the every-day world into the new fancy-created one. "About the age of four," writes M. Egger of his boys, "Felix is playing at being coachman, Emile happens to return home at the moment. In announcing his brother, Felix does not say, 'Emile is come,' he says 'The brother of the coachman is come'." <sup>1</sup>

As we saw above, the child's absorption in his new play-world is shown by his imperious demand that others, as his mother, shall recognise his new character. Pestalozzi's little boy, aged three years and a half, was one day playing at being butcher, when his mother called him by his usual diminutive, 'Jacobli'. He at once replied: "No, no; you should call me butcher now". <sup>2</sup> Here is a story to the same effect, sent me by a mother. A little girl of four was playing 'shops' with her younger sister. "The elder one was shopman at the time I came into her room and kissed her. She broke out into piteous sobs, I could not understand why. At last she sobbed out: 'Mother, you never kiss the man in the shop'. I had with my kiss quite spoilt her illusion."

The intensity of the realising power of imagination in play is seen too in the stickling for fidelity to the original in all

<sup>1</sup> Quoted by Compayré, *op. cit.*, p. 150.

<sup>2</sup> De Guimp's *Life of Pestalozzi* (Engl. trans.), p. 41.

playful reproduction, whether of scenes observed in everyday life or of what has been narrated. The same little boy who showed his picture-books to dolly was, we are told, when two years and eight months old, fond of imagining that he was Priest, his grandmamma's coachman. "He drives his toy horse from the arm-chair as a carriage, getting down every minute to 'let the ladies out,' or to 'go shopping'. The make-believe extends to his insisting on the reins being held while he gets down and so forth." The same thing shows itself in acting out stories. The full enjoyment of the realisation depends on the faithful reproduction, on the suitable outward embodiment of the distinct idea in the child's mind.

The following anecdote bears another kind of testimony, a most winsome kind, to the realising power of play. One day two sisters said to one another: "Let us play being sisters". This might well sound insane enough to hasty ears; but is it not really eloquent? To me it suggests that the girls felt they were not realising their sisterhood, enjoying all the possible sweets of it, as they wanted to do—perhaps there had been a quarrel and a supervening childish coldness. And they felt too that the way to get this more vivid sense of what they were, or ought to be, one to the other, was by playing the part, by acting a scene in which they would come close to one another in warm sympathetic fellowship.

But there is still another, and some will think a more conclusive way of satisfying ourselves of the reality of the play-illusion. The child finds himself confronted by the unbelieving adult who questions what he says about the doll's crying and so forth. One little girl, aged one year and nine months, when asked by her mother how her doll, who had lost his arms, ate his dinner without hands, quickly changed the subject. She did not apparently like having difficulties brought into her happy play-world. But the true tenacious faith shows itself later when the child understands



these sceptical questionings of others, and sees that they are poking fun at his play and his day-dreamings. Such cruel quizzings of his make-believe are apt to cut him to the quick. I have heard of children who will cry if a stranger suddenly enters the nursery when they are hard at play, and shows himself unsympathetic and critical.

Play may produce not only this vivid imaginative realisation at the time, but a sort of mild permanent illusion. Sometimes it is a toy-horse, in one case communicated to me it was a funny-looking toy-lion, more frequently it is the human effigy, the doll, which as the result of successive acts of imaginative vivification gets taken up into the relation of permanent companion and pet. Clusters of happy associations gather about it, investing it with a lasting vitality and character. A mother once asked her boy of two and a half years if his doll was a boy or a girl. He said at first, "A boy," but presently correcting himself added, "I think it is a baby". Here we have a challenging of the inner conviction by a question, a moment of reflexion, and as a result of this, an unambiguous confession of faith that the doll had its place in the living human family.

Here is a more stubborn exhibition on the part of another boy of this lasting faith in the plaything called out by others' sceptical attitude. "When (writes a lady correspondent) he was just over two years old L. began to speak of a favourite wooden horse (Dobbin) as if it were a real living creature. 'No tarpenter (carpenter) made Dobbin,' he would say, 'he is not wooden but kin (skin) and bones and Dod (God) made him.' If any one said 'it' in speaking of the horse his wrath was instantly aroused, and he would shout indignantly: 'It! You mutt'ent tay "it," you mut tay *he*'. He imagined the horse was possessed of every virtue and it was strange to see what an influence this creature of his own imagination exercised over him. If there was anything L. particularly wished not to do his mother had

only to say : 'Dobbin would like you to do this,' and it was done without a murmur."

There is another domain of childish activity closely bordering on that of play where a like suffusion of the world of sense by imagination meets us. I refer to pictures and artistic representations generally. If in the case of adults there is a half illusion, a kind of oneirotic or trance condition induced by a picture or dramatic spectacle, in the case of the less-instructed child the illusion is apt to become more complete. A picture seems very much of a toy to a child. A baby of eight or nine months will talk to a picture as to a living thing ; and something of this tendency to make a fetish of a drawing survives much later. But it will be more convenient to deal with the attitude of the child-mind towards pictorial representations in connexion with his art-tendencies.

The imaginative transformation of things, more particularly the endowing of lifeless things with life, enters, I believe, into all children's pastimes. Whence comes the perennial charm, the undying popularity, of the hoop ? Is not the interest here due to the circumstance that the child controls a moving thing which in the capricious variations of its course simulates a free will of its own ? As I understand it, trundling the hoop is imaginative play hardly less than riding the horse-stick and slashing its flanks. Who again that can recall early experiences will doubt that the delight of flying the kite, of watching it as it sways to the right or to the left, threatening to fall head-foremost to earth, and most of all perhaps, of sending a paper 'messenger' along the string to the wee thing poised like a bird so terribly far away in the blue sky, is the delight of imaginative play ? The same is true of sailing boats, and other pastimes of early childhood.

I have here touched merely on the imaginative and half-illusory side of children's play. It is to be remembered, however, that play is much more than this, and reflects

much more of the childish mind. Play proper as distinguished from mere day-dreaming is activity and imitative activity; and children show marked differences in the energy of this activity, and in the quickness and closeness of their responses to the model actions of the real nurse, real coachman, and so forth. That is to say, observation of others will count here. Again, while social surroundings, opportunities for imitation, are important, they are by no means all-decisive. Children show a curious selectiveness in their imitative games, germs of differential interest, sexual and individual, revealing themselves quite early. It may be added that a child with few opportunities of observation may get quite enough play-material from storyland. But play is never merely imitative, save indeed in the case of unintelligent and 'stoggy' children. It is a bright invention into which all the gifts of childish intelligence may pour themselves. The relation of play to art will engage us later on.

*-Free Projection of Fancies.*

In play and the kindred forms of imaginative activity just dealt with, we have been concerned with imaginative realisation in its connexion with sense-perception. And here, it is to be noticed, there is a kind of reciprocal action between sense and imagination. On the one hand, as we have seen, imagination interposes a coloured medium, so to speak, between the eye and the object, so that it becomes transformed and beautified. On the other hand, in what is commonly called playing, imaginative activity receives valuable aid from the senses. The stump of a doll, woefully unlike as it is to what the child's fancy makes it, is yet a sensible fact, and as such gives support and substance to the realising impulse.

Now this fact that imagination derives support from sense leads to a habit of projecting fancies, and giving them an external and local habitation. In this way the idea

receives a certain solidity and fixity through its embodiment in the real physical world.

This incorporation of images in the system of the real world may, like play, start at one of two ends. On the one hand, the external world, so far as it is only dimly perceived, excites wonder, curiosity, and the desire to fill in the blank spaces with at least the semblance of knowledge. Here distance exercises a strange fascination. The remote chain of hills faintly visible from the child's home, has been again and again endowed by his enriching fancy with all manner of wondrous scenery and peopled by all manner of strange creatures. The unapproachable sky—which to the little one, so often on his back, is much more of a visible object than to us—with its wonders of blue expanse and cloudland, of stars and changeful moon, is wont to occupy his mind, his bright fancy quite spontaneously filling out this big upper world with appropriate forms.

This stimulating effect of the half-perceivable is seen in still greater intensity in the case of what is hidden from sight. The spell cast on the young mind by the mystery of holes, and especially of dark woods, and the like, is known to all. C.'s peopling of a dark wood with his *bêtes noires* the wolves illustrates this tendency.

"What (writes a German author already quoted) all childish fancy has almost without exception in common, is the idea of a wholly new and unheard-of world behind the remote horizon, behind woods, lakes and hills, and all objects reached by the eye. When I was a child and we played hide and seek in the barn, I always felt that there must or might be behind every bundle of straw, and especially in the corners, something unheard of lying hidden. And yet I had no profane curiosity, no desire to experiment by turning over the bundle of straw. It was just a fancy, and though I half recognised it as such it was lively enough to engage me as a reality." The same writer goes on to describe how his imagination ever

occupied itself with what lay behind the long stretch of wood which closed in a large part of his child's horizon.<sup>1</sup>

This imaginative filling up of the remote and the hidden recesses of the outer world is subject to manifold stimulating influences from the region of feeling. We know that all vivid imagination is charged with emotion, and this is emphatically true of children's phantasies. The unseen, the hidden, contains unknown possibilities, something awful, terrible, it may be, to make the timid wee thing shudder in anticipatory vision, or wondrously and surprisingly beautiful. How far the childish attitude is from intellectual curiosity is seen in the remark of Goltz, that no impious attempt is made to probe the mystery.

The other way in which this happy fusion of fancy with incomplete perception may be effected is through the working of the impulse to give outward embodiment to vivid and persistent images. All play, as we have seen, is an illustration of the impulse, and certain kinds of play show the working of the impulse in its purity. It extends, however, beyond the limits of what is commonly known as play. The instance quoted above, the peopling of a certain wood with wolves by the child C., was of course due in part to the fact that the small impressionable brain was at this time much occupied with the idea of the wolf. Dickens and others have told us how when children they were wont to project into the real world the lively images acquired from storyland. When suitable objects present themselves the images are naturally enough linked on to these. Thus Dickens writes: "Every burn in the neighbourhood, every stone of the church, every foot of the churchyard had some association of its own in my mind connected with these books (*Roderic Random*, *Tom Jones*, *Gil Blas*, etc.), and stood for some locality made famous in them. I have seen Tom Piper go climbing up the church

<sup>1</sup> Goltz, *Das Buch der Kindheit*, p. 276.

steeple; I have watched Strap with the knapsack on his back stopping to rest himself on the wicket-gate."<sup>1</sup>

Along with this attachment of images to definite objects there goes a good deal of vague localisation in dim half-realised quarters of space. The supernatural beings, the fairies, the bogies, and the rest, are, as might be expected, relegated to these obscure and impenetrable regions. It would be worth while perhaps to collect a children's comparative mythology, if only to see what different localities, geographic and cosmic, the childish mind is apt to assign to his fabulous beings. The poor fairies seem to have been forced to find an abode in most dissimilar regions. The boy C. selected the wall of his bedroom—hardly a dignified abode, though it had the merit of being within reach of his prayers. A child less bent on turning the superior personages to practical account will set them in some remoter quarter, in a vast forest, or deep cavern, on a distant hill, or higher up in the blue above the birds. But systems of child-mythology will occupy us again.

### *Imagination and Storyland.*

We may now pass to a freer region of imaginative activity where the child's mind gives life and reality to its images without incorporating them into the outer sensible world, even to the extent of talking to invisible playmates. The world of story, as distinct from that of play, is the great illustration of this detached activity of fancy.

The entrance into storyland can only take place when the key of language is put into the child's hand. A story is a verbal representation of a scene or action, and the process of imaginative realisation depends in this case on the stimulating effect of words in their association with ideas. Now a word has not for a child the peculiar force of an imitative sensuous impression, say that of a picture.

<sup>1</sup> Quoted by Forster, *Life of Charles Dickens*, chap. i.

The toy, the picture, being, however roughly, a likeness or show, brings the idea before the child's eyes in a way in which the word-symbol cannot do. Yet we may easily underestimate the stimulating effect of words on children's minds, which are much more tender and susceptible than we are wont to suppose. To call out to a child, 'Bow, wow!' or 'Policeman!' may be to excite in his mind a vivid image which is in itself an approach to a complete sensuous realisation of the thing. We cannot understand the fascination of a story for children save by remembering that for their young minds, quick to imagine and unversed in abstract reflexion, words are not dead thought-symbols, but truly alive and perhaps "winged" as the old Greeks called them.

It may not be easy to explain fully this stimulating power of words on the childish mind. There is some reason to say that in these early days spoken words as sounds for the ear have in themselves something of the immediate objective reality of all sense-impressions, so that to name a thing is in a sense to make it present. However this be, words as sense-presentations have a powerful suggestive effect on children's imagination, calling up particularly vivid images of the objects named. The effect is probably aided by the child's nascent feeling of reverence for another's words as authoritative utterances.

This impulse to realise words makes the child a listener much more frequently than we suppose. How often is the mother surprised and amused at a question put by her child about something said in his presence to a servant, a visitor, or a workman; something which in her grown-up way she assumed would not be of the slightest interest to him. In this manner, words soon become a great power in the new wondering life of a child. They lodge like flying seedlings in the fertile brain, and shoot up into strange imaginative growths. But of this more by-and-by.

This profound and lasting effect of words is nowhere more clearly seen than in the spell of the story. We grown-up people are wont to flatter ourselves that we read stories: the child, if he could know what we call reading, would laugh at it. With what deftness does the little brain disentangle the language, often strange and puzzling enough, reducing it by a secret child-art to simplicity and to reality. A mother when reading a poem to her boy of six, ventured to remark, "I'm afraid you can't understand it, dear," for which she got duly snubbed by her little master in this fashion: "Oh, yes, I can very well, if only you would not explain". The explaining is resented because it interrupts the child's own spontaneous image-building, wherein lies the charm, because it rudely breaks the spell of the illusion, calling off the attention from the vision he sees in the word-crystal, which is all he cares about, to the cold lifeless crystal itself.

And what a bright vision it is that is there gained. How clearly scene after scene of the dissolving view unfolds itself. How thrilling the anticipation of the next unknown, undiscernible stage in the history. Perhaps no one has given us a better account of the state of absorption in storyland, the oneirotic or dream-like condition of complete withdrawal from the world of sense into an inner world of fancy, than Thackeray. In one of his delightful "Roundabout Papers," he thus writes of the experiences of early boyhood. "Hush! I never read quite to the end of my first *Scottish Chiefs*. I couldn't. I peeped in an alarmed furtive manner at some of the closing pages. . . . Oh, novels, sweet and delicious as the raspberry open tarts of budding boyhood! Do I forget one night after prayers (when we under-boys were sent to bed) lingering at my cupboard to read one little half-page more of my dear Walter Scott—and down came the monitor's dictionary on my head!"

As one thinks of the deep delights of these first



excursions into storyland one almost envies the lucky boys whom the young Charles Dickens held spellbound with his tales.

The intensity of the delight is seen in the greed it generates. Who can resist the child's hungry demand for a story? Edgar Quinet in his *Histoire de mes Idées* tells how when a child an old corporal came to drill him. He had been taken prisoner by the Spaniards and placed on an inaccessible island. Edgar loved to hear the thrilling story of the old soldier's adventures, and scarcely was the narrative finished when the greedy boy would exclaim, "Encore une fois!" Heine's delight when a boy at Düsseldorf in drinking in the stories of Napoleon's exploits from his drummer is another well-known illustration.

Through the perfect gift of visual realisation which a child brings to it the verbal narrative becomes a record of fact, a true history. The intense enjoyment which is bound up with this process of imaginative realisation makes children jealously exact as to accuracy in repetition. The boy C. when a story was repeated to him used to resent even a small alteration of the text. Woe to the unfortunate mother who in telling one of the good stock nursery tales varies a detail. One such, a friend of mine, repeating 'Puss in Boots' inadvertently made the hero sit on a chair instead of on a box to pull on his boots. She was greeted by a sharp volley of 'No's!' The same lady tells me that when narrating the story of 'Beauty and the Beast' for the second time only she forgot in describing the effect of the Beast's sighing to add after the words 'till the glasses on the table shake' 'and the candles are nearly blown out'; whereupon the severe little listener at once stopped the narrator and supplied the interesting detail. The exacting memory of childhood in the matter of stories is the product of a full detailed realisation. In the case just quoted the reality of the story was contradicted by substituting a stupid conventional chair for

the box, and by omitting the striking incident of the candles.

Happy age of childhood, when a new and wondrous world, created wholly by the magic of a lively phantasy, rivals in brightness, in distinctness of detail, aye, and in steadfastness too, the nearest spaces of the world on which the bodily eye looks out, before reflexion has begun to draw a hard dividing line between the domains of historical truth and fiction.

As the demand for faithful repetition of story shows, the imaginative realisation continues when the story is no longer heard or read. It has added something to the child's inner supplementary world, given him one more lovely region in which he may live blissful moments. The return of the young mind to the persons and scenes of story is forcibly illustrated in the impulse, already touched on, to act out in play the parts of this and that heroic figure. With many children any narrative which holds the imagination delightfully enthralled is likely to become more fully realised in a visible embodiment. For instance, a child of five years, when told a story of four men going along a railway to stop a train before it neared a bridge which was on fire, at once proceeded to play the incident with his toy train. Here we see how story by contributing lively images to the child's brain becomes one main stimulative and guiding influence in the domain of play. In like manner the images born of story may, as in the case of Dickens, attach themselves permanently to particular localities and objects.

To this lively imaginative reception of what is told him the child is apt very soon to join his own free inventions of figures, human, superhuman, or subhuman. The higher qualities of this invention properly come under the head of child-art, and will have to be considered in another chapter. Here we may glance at these inventions as illustrating the realising power of the child's imagination.

This invention appears in a sporadic manner in occasional 'romancings' which may set out from some observation of the senses. A little boy aged three and a half years seeing a tramp limping along with a bad leg exclaimed: "Look at that poor ole man, mamma, he has dot (got) a bad leg". Then romancing, as he was now wont to do: "He dot on a very big 'orse, and he fell off on some great big stone, and he hurt his poor leg and he had to get a big stick. We must make it well." Then after a thoughtful pause: "Mamma, go and kiss the place and put some powdey (powder) on it and make it well like you do to I". The unmistakable childish seriousness here, the outflow of young compassion, and the charming enforcement of the nursery prescription, all point to a vivid realisation of this extemporised little romance. This child was moreover more than commonly tender-hearted, and perhaps the more exposed on that account to such amiable self-deception. Another small boy when a little over two years, happening to hear a buzzing on the window, said: "Mamma, bumble-bee in a window says it wants a yump (lump) of sugar": then shaking his head sternly, added: "Soon make you heat-spots, bumble-bee". Other examples of this romancing will be met with in the notes on the child C.

In such simple fashion does the child build up a tiny myth on the basis of some passing impression, supplying out of his quaintly stored fancy unlooked-for adornments to the homely occurrences of every-day life.

Partly by taking in and fully realising the wonders of story, partly by the independent play of an inventive imagination, children's minds pass under the dominion of more or less enduring myths. The princes and princesses and dwarfs and gnomes of fairy-tale, the workers of Christmas miracles, Santa Claus and Father Christmas, as well as the beings fashioned by the child's imagination on the model of those he knows from story, these live on like the people of

the every-day world, are apt to appear in dreams, in the dark, at odd dreamy moments when the things of sense lose their hold, bringing into the child's life golden sunlight or black awful shadows, the most real of all realities.

This childish belief in myth is often curiously tenacious. A father was once surprised to find that his boy aged five years and ten months continued naively to believe in the real personality of Santa Claus. It was Christmastide and the father, in order to test the child's credulity, put his own pocket-knife into the stocking which Santa Claus was supposed to fill. The child, though he knew his father's knife very well, did not in the least suspect that the knife he found in the stocking had been placed there by human hands, but expressed himself as pleased that Santa Claus had sent him one like his father's. When his father followed this up by telling him that he had lost his knife, and by searching for it in the boy's presence, the latter asked whether Santa Claus had stolen the knife—thus showing how its close similarity to the knife he had received had impressed him, though he would not for a moment doubt the fact of its coming from the mysterious personage. It might be thought that this child was particularly stupid. On the contrary he was well above the average in intelligence. In proof of this I may relate that the Christmas before this, that is to say when he was under five years, he was the only one among thirty children who recognised his uncle when extremely well disguised as Father Christmas. When asked by his father why he thought it was his uncle, he said at first he didn't know, but thinking a moment he added, "I don't see who else there is," showing that he had reasoned out his belief by a method of exclusion.

Of course it will be said that I am here selecting exceptional cases of childish imagination. I am quite ready to admit the probability of this. The best examples of any trait of the young mind will obviously be supplied by those

who have most of this trait. Yet I very much suspect that ordinary and even dull children are wont to hide away a good deal of such superstitious belief. "One of the greatest pleasures of childhood," says Oliver Wendell Holmes in *The Poet of the Breakfast Table*, "is found in the mysteries which it hides from the scepticism of the elders and works up into small mythologies of its own."

I have treated the myths of children as a product of pure imagination, of the impulse to realise in vivid images what lies away from and above the world of sense. Yet, as we shall see later, they are really more than this. They contain, like the myths of primitive man, a true germ of thought. ✓

In George Sand's recollections we shall meet with a striking illustration of how the vivid imagination of supernatural beings is followed up by a reflective and half-scientific effort to connect the myth with the facts and laws of the known world. This infusion of childish reason into wonderland, the first crude attempt to adjust belief to belief, and to find points of attachment for the much-loved myth in the matter-of-fact world, is apt to lead, as we shall see, to a good deal that is very quaint and characteristic in the child's mythology. ✓

The conclusion which observation of children leads us to is that, as compared with adults, they are endowed with strong imaginative power, the activity of which leads to a surprisingly intense inner realisation of what lies above sense. For the child, as for primitive man, reality is a projection of fancy as well as an assurance of sense. ✓

Now this conclusion is, I think, greatly strengthened by all that we know of the conditions of the brain-life in children, and of the many perturbations to which it is liable. With respect to this brain-life we have to remember that in the first years the higher cortical centres which take part in the co-ordinative and regulative processes of thought and volition are but very imperfectly developed. Hence

the centres concerned in imagination—which, if not identical with what used to be called the sensorium or seat of sensation, are in closest connexion with it—are not checked and inhibited by the action of the higher centres as is the case with us. By exercising a volitional control over the flow of our ideas, we are able to reason away a fancy, and generally to guard ourselves against error. In young children all ideas that grow clear and full under the stimulus of a strong interest are apt to persist and to become preternaturally vivid. As has been suggested by more than one recent writer on childhood and education, the brain of a child has a slight measure of that susceptibility to powerful illusory suggestion which characterises the brain of a hypnotised subject. Savages, who show so striking a resemblance to children in the vivacity and the dominance of their fancy, are probably much nearer to the child than to the civilised adult in the condition of their brain.

This preternatural liveliness of the images of the imperfectly developed brain exposes children, as we know, to disturbing illusion. The effect of bad dreams, of intense feeling, particularly of fear, in developing illusory belief in sensitive and delicate children is familiar enough, and will be dealt with again later on. Some parents feel the dangers of such disturbance so keenly that they think it best to cut their children off from the world of fiction altogether. But this is surely an error. For one thing children who are strongly imaginative will be certain to indulge their fancies, as the Brontë girls did, even when no fiction is supplied and their eager little minds are thrown on the matter-of-fact newspaper. A child needs not to be deprived of story altogether, but to be supplied with bright and happy stories, in which the gruesome element is subordinate. Specially sensitive children should, I think, be guarded against much that from an older point of view is classic, as some of the 'creepy' stories in Grimm, though there are no doubt hardy young nerves which

can thrill enjoyably under these horrors. As to confusing a child's sense of truth by indulging him in story, the evil seems to me problematic, and, if it exists at all, only slight and temporary. But I hope to touch on this aspect of the subject in the next chapter.

### III.

#### THE DAWN OF REASON.

##### *The Process of Thought.*

TO treat the child's mind as merely a harbourer of fancies, as completely subject to the illusive spell of its bright imagery, would be the grossest injustice. It is one of the reputable characteristics of childhood that it manages to combine with so much vivacity and force of imagination a perfectly grave matter-of-fact look-out on the actual world.

And here I should like to correct the common supposition that children are imaginative *or* observant of their surroundings, but not both. I have no doubt that there are many children who show a marked preponderance of the one or of the other tendency: there is the fanciful and dreamy child, and the matter-of-fact child with a tenacious grasp on the realities of things. I have but little doubt, too, that in the case of children who show the two tendencies, the one or the other is apt to preponderate at a certain stage of development: many boys, for example, have their dreamy period, and then become almost stolidly practical. All that I am concerned to make out here is that the two tendencies do co-exist, and as a number of parents have assured me may co-exist each in a high degree of intensity in the same child; the really intelligent children, boys as well as girls, being dispassionate and shrewd inquirers into the make of the actual world while ardently engaged in fashioning a brighter one.



The two tendencies belong to two moods, one of which may be regent for days together, though they often alternate with astonishing rapidity. More particularly the serious matter-of-fact mood readily passes, as if in relief from mental tension, into the playful fanciful one, as when the tiny student, deep in the stupendous lore of the spelling-book, suddenly dashes off to some fanciful conceit suggested by the 'funny' look of a particular word or letter.

The child not only observes but begins to reflect on what he observes, and does his best to understand the puzzling scene which meets his eye. And all this gives seriousness, a deep and admirable seriousness, to his attitude. So much is this the case that if we were called on to portray the typical mental posture of the child we might probably do so by drawing the erect little figure of a boy, as with widely open eye he gazes at some new wonder, or listens to some new report of his surroundings from a mother's lips. Hence, one may forgive the touch of exaggeration when Mr. Bret Harte writes: "All those who have made a loving study of the young human animal will, I think, admit that its dominant expression is *gravity* and not playfulness".<sup>1</sup> We may now turn to this graver side of the young intelligence.

Here, again, I may as well say that I prefer to observe the phenomenon in its clearer and fuller manifestations, that is to say, to study the serious intelligence of the child in the most intelligent children, or at least in children whose minds are most active. This does not mean that we shall be on the look-out for precocious wisdom or priggish smartness. On the contrary, since it is childish intelligence as such that we are in search of, we shall take pains to avoid as far as possible any encounter with prodigies. By these I mean the unfortunate little people whose

<sup>1</sup> Works, vol. iii., p. 396.

mental limbs have been twisted out of beautiful child-shape by the hands of those in whom the better instincts of the parent have been outweighed by the ambition of the showman. We shall seek more particularly for spontaneous openings of the mental flower under the warming rays of a true mother's love, for confidential whisperings of child-thought to her ever-attentive and ever-tolerant ear.

In order fully to understand the serious work of childish intelligence, we ought to begin with a study of early observation. But I must pass by this interesting subject with only a remark or two.

Much has been written on the deeply concentrated all-absorbing scrutiny of things by the young eye. But to say how much an infant of nine months really sees when he fixes his wide eyes on some new object, is a matter of great uncertainty. What seems certain, is that the infant has to learn to see things, and very probably takes what seems to us an unnecessarily long time to see them at all completely.

We find when the child grows and can give an account of what he notes that his observation, while often surprisingly minute in particular directions, is highly restricted as to its directions, being narrowly confined within the limits of a few dominant attractions. Thus a child will sometimes be so impressed with the colour of an object as almost to ignore its form. A little girl of eighteen months, who knew lambs and called them 'lammies,' on seeing two black ones in a field among some white ones called out, "Eh! doggie, doggie!" The likeness of colour to the black dog overpowered the likeness in form to the other lambs close by. Within the limits of form-perception again, we may remark the tendency to a one-sided mode of observing things which has in it something of an abstract quality. For the child C. the pointed head was the main essential feature of the dog, and he recognised this in a bit of

many a green covered mound, whose limits would say - could be talk  
 I did not think they to run me, before I was able to walk - Will Carter -

biscuit. We shall find further examples of this abstract observation when we come to consider children's drawings.

This same partiality of observation comes out very clearly in a good deal of the early assimilation or apperception already referred to. The reason why it is so easy for a child to superimpose a fanciful analogy on an object of sense, is that his mind is untroubled by all the complexity of this object. It fastens on some salient feature of supreme attractiveness or interest, and flies away on the wings of this, to what seems to us a far-off resemblance.

This detaching or selective activity in children's observation, which in a manner is a defect, is also a point of superiority. It has this in common with the observation of the poet, that it is wholly engrossed with what is valuable. Thus one main feature of the eye-lid is certainly that it opens and closes like a curtain; and it is its resemblance to the mysterious curtain shutting out the daylight, which makes it a matter of absorbing interest. Here, then, we have, as we shall see more fully presently, a true germ of thought-activity embedded in the very process of childish observation and recognition. For thought is precisely a more methodical process of bringing the concrete object into its relations to other things.

Yet children's observation does not remain at this height of grand selectiveness. The pressure of practical needs tends to bring it down to our familiar level. A child finds himself compelled to distinguish things and name them as others do. The lamb and the dog, for example, have to be distinguished by a *complex* of marks in which the supremely interesting detail of colour holds a quite subordinate place. Individual things, too, have to be distinguished, if only for the purpose of drawing the line between what is 'mine' and 'not mine'. The boy's mother, his cup, his hat, must be readily recognised, and this necessity forces the attention to grasp a plurality of marks. Thus the mother cannot always be recognised by her

height alone, as when she happens to be sitting, nor by her hair alone, as when she happens to have her hat on, so that the weighty problem of recognising her always compels the child to note a number of distinctive marks, some of which will in every case be available.

When once the eye has begun to note differences it makes rapid progress. This is particularly true where the development of a special interest in a group of things leads to a habit of concentration. Thus little boys when the 'railway interest' seizes them are apt to be finely observant of the differences between this and that engine and so forth. A boy aged two years and eleven months, after travelling from Dublin to Cork, and thence by another railway, asked his mother if she had noticed the difference in the make of the rails on the two lines. Of course she had not, though she afterwards ascertained that there was a slight difference which the boy's keener eye had detected.

The fineness of a child's distinguishing observation is well illustrated in his recognition of small drawings and photographs, as when a child of two will pick out the likeness of his father from a small *carte de visite* group. But this side of children's recognition will occupy us later on.

Such fine and ready recognition as that just illustrated shows not merely a penetrating observation of what is distinctive and characteristic, but also a measure of a higher power, that of seizing in one act of attention a complex or group of such marks. In truth, children's observation, when close and methodical, as it is apt to be under the stimulus of a powerful interest, is often surprisingly full as well as exact. The boy, John Ruskin, was not the only one who could look for hours together at such an object as flowing water, noting all its changing features. A mother writes to me that her boy, when three and a half years old, received a picture-book, 'The Railway Train,' and looked at it almost uninterruptedly for a week, retaining it even at meals. "At the end of this time he had grasped the smallest

detail in every picture." By such occasional fits of fine exhaustive inspection, a child of the more intelligent sort will now and again come surprisingly near that higher type of observation, at once minute and comprehensive, which subserves, in somewhat different ways, scientific discovery and artistic representation. Many parents when watching these exceptional heights of childish scrutiny have indulged in fond dreams of future greatness. Yet these achievements are, alas, often limited to a certain stage of intellectual progress, and are apt to disappear when the bookish days come on, and the child loses himself hours together over his favourite stories. And in any case the germ of promise must possess a wondrous vitality if it resists all the efforts of our school-system to weed out from the garden of the mind anything so profitless as an observing faculty.

Next to this work of observation we must include in the pre-conditions of childish thought at its best a lively retention of what is observed. Everybody who has talked much with little children must have been struck by the tenacity of their memories, their power of recalling after considerable intervals small features of an object or small incidents which others hardly noted, or, if they noted them at the time, have since forgotten. Stories of this surprising recollection may be obtained in abundance. A little girl when only nine months old was on a walk shown some lambs at the gate of a field. On being taken the same road three weeks later she surprised her mother by calling out just before arriving at the gate 'Baa, baa!' Later on children will remember through much longer intervals. A little boy aged two years and ten months when taken to Italy a second time after four or five months' absence, remembered the smallest details, *e.g.*, how the grapes were cut, how the wine was made and so forth.

The gradual gathering of a store of such clear memory-images is a necessary preliminary to reflexion and thought. It is because the child remembers as well as sees, remember-

ing even while he sees, that he grows thoughtful, inquiring about the meaning and reason of this and that, or boldly venturing on some explanation of his own. And just as the child's mind must take on many pictures of things before it reflects upon and tries to understand the world, so it must collect and arrange pictures of the successive scenes and events of its life, before it will grow self-conscious and reflect upon its own strange existence.

The only other pre-condition of this primitive thoughtfulness is that imaginative activity which we have already considered on its playful and pleasurable side. We are learning at last that the inventive phantasy of a child, prodigal as it is of delightful illusions, is also a valuable contributor to this sober work of thought. It is just because the young mind is so mobile and agile, passing far beyond the narrow confines of the actual in imaginative conjecture of what lies hidden in the remote, that it begins to *think*, that is, to reason about the causes of things. In the history of the individual as of the race, thought, even the abstract thought of science, grows out of the free play of imagination. The myth is at once a picturesque fancy, and a crude attempt at an explanation. This primitive thought is indeed so compact of bright picturesque imagery that we with our scientifically trained minds might easily overlook its inherent thoughtfulness. Yet a close inspection shows us that it contains the essential characteristics of thought, an impulse to comprehend things, to reduce the confusing multiplicity to order and system.

We must not hope to trace clearly the lines of this first child-thought. The earliest attitude of the wakening intelligence towards the confusion of novelties, which for us has become a world, is presumably indescribable, and further, by the time that a child comes to the use of words and can communicate his thoughts, in a broken way at least, the scene is already losing something of its first strangeness, the organising work of experience has begun. Yet though

we cannot expect to get back to the primal wonderment we can catch glimpses of that later wonderment which arises when instruction supplements the senses, and ideas begin to form themselves of a vast unknown in space and time, of the changefulness of things, and of that mystery of mysteries the beginning of things. The study of this child-thought as it tries to utter itself in our clumsy speech will well repay us. Only we must be ever on the alert lest we read too much into these early utterances, forgetting that the child's first tentative use of words is very apt to mislead.

The child first dimly reveals himself as thinker in the practical domain. In the evolution of the race the reasoning faculty has been first quickened into action by the ferment of instinctive craving and striving. Man began to reflect on the connexions of things in order to supply himself with food, to ward off cold and other evils. So with the child. Before the age of speech we may observe him thinking out rapidly as occasion arises some new practical expedient, as, for example, seizing a clothes-pin or other available aid in order to reach a toy that has slipped out of his reach; or clutching at our dress and pulling the chair by way of signifying to us that we are to remain and continue to amuse him. The observations of the first months of child-life abound with such illustrations of an initiating practical intelligence.

Yet these exploits, impressive as they often are, hardly disclose the distinctive attributes of the human thinker. The cat, without any example to imitate, will find its way to a quite charming begging gesture by reaching up and tapping your arm.

Probably the earliest unambiguous indication of a human faculty of thought is to be found in infantile comparison. When a baby turns its head deliberately and sagely from a mirror-reflexion or portrait of its mother to the original, we appear to see the first crude beginnings of

a process which, when more elaborated, becomes human understanding.

A good deal of comparison of this kind seems to enter into the mental activity of young children. Thus the deep absorbing attention to pictures spoken of above commonly means a careful comparison of this and that form one with another, and in certain cases, at least, a comparison of what is now seen with the mental image of the original. In some children, moreover, comparison under the form of measurement grows into a sort of craze. They want to measure the height of things one with another and so forth. An intelligent child will even find his way to a *mediate* form of comparison, that is, to measuring things through the medium of a third thing. Thus a boy of five, who had conceived a strong liking for dogs, was in the habit when walking out of measuring on his body how high a dog reached. On returning home he would compare this height with that of the seat or back of a chair, and would finally ask for a yard measure and find out the number of inches.

This comparison of things is of the very essence of understanding, of comprehending things as distinguished from merely apprehending them as concrete isolated objects. The child in his desire to assimilate, to find something in the region of the known with which the new and strange thing may be brought into kinship, is ever on the look-out for likeness. Hence the analogical and half-poetical apperception of things, the metaphorical reduction of a thing to a prototype, as in calling a star an eye, or an eyelid a curtain, may be said to contain the germ at once of poetry and of science.

This comparison for purposes of understanding leads on to what psychologists call classification, or generalisation; the bringing together and keeping before the mind of a number of like things by help of a general name. The child may be said to become a true thinker as soon as he uses names intelligently, calling each thing by an appropriate name, and so classing it with its kind.



This power of infantile generalisation is one full of interest and has been carefully observed. It will, however, be more conveniently dealt with in another chapter where we shall be specially concerned with the child's use of language.

While thus beginning to arrange things according to such points of likeness as he can discover, the child is noting the connexions of things. He finds out what belongs to a horse, to a locomotive engine, he notes when father leaves home and returns, when the sun declines, what accompanies and follows rain, and so forth. That is to say, he is feeling his way to the idea of connectedness, of regularity, of what we call uniformity or law. We now say that the child reasons, no longer blindly or automatically like the dog, but with a consciousness of what he is doing. We little think how much hard work has to be got through by the little brain before even this dim perception of regularity is attained. In some things, no doubt, the regularity is patent enough, and can hardly be overlooked by the dullest of children. The connexion between the laying of the cloth and the meal—at least in an orderly home—is a matter which even the canine and the feline intelligence is quite able to grasp. But when it comes to finding out the law according to which, say, his face gets dirty, his head aches, or people send out their invitations to children's parties, the matter is not so simple.

The fact is that there is so large a proportion of apparent disconnectedness and capricious irregularity in the child's world that it is hard to see how he would ever learn to understand and to reason, were he not endowed with a lively and inextinguishable impulse to connect and simplify. Herein lies a part of the pathos of childhood. It brings its naïve prepossession of a regular well-ordered world, and alas, finds itself confronted with an impenetrable tangle of disorder. How quaint it is to listen to the little thinker, as, with untroubled brow, he begins to propound his

beautifully simple theory of the cosmic order. An American boy of ten who had had one cross small teacher, and whose best teacher had been tall, accosted a new teacher thus: "I'm afraid you'll make a cross teacher". His teacher replied: "Why, am I cross?" To which he rejoined: "No; but you are so small". We call this hasty generalisation. We might with equal propriety term it the child's innate *a priori* view of things.

With this eagerness to get at and formulate the law of things is inseparably bound up the impulse to bring every new occurrence under some general rule. Here, too, the small thinker may only too easily slip by failing to see the exact import and scope of the rule. We see this in the extension of laws of human experience to the animal world. Rules supplied by others and only vaguely understood, more particularly moral and religious truths, lend themselves to this kind of misapplication. The Worcester collection of *Thoughts and Reasonings of Children* gives some odd examples of such application. American children, to judge from these examples, appear to be particularly smart at quoting Scripture; not altogether, one suspects, without a desire to show off, and possibly to raise a laugh. But discounting the influence of such motives it seems pretty clear that a child has a marvellous power of reading his own ideas into others' words, and so of giving them a turn which is apt to stagger their less-gifted authors. Here is a case. R.'s aunt said: "You are so restless, R., I can't hold you any longer". R.: "Cast your burden on the Lord, Auntie K., and He will sustain you". The child, we are told, was only four. He probably understood the Scripture injunction as a useful prescription for getting rid of a nuisance, and with the admirable impartiality of childish logic at once applied it to himself. Other illustrations of such misapplication will meet us when we take up the relation of the child's thought to language.

*The Questioning Age.*

The child's first vigorous effort to understand the things about him may be roughly dated at the end of the third year, and it is noteworthy that this synchronises with the advent of the questioning age. The first putting of a question occurred in the case of Preyer's boy in the twenty-eighth month, in that of Pollock's girl in the twenty-third month. But the true age of inquisitiveness when question after question is fired off with wondrous rapidity and pertinacity seems to be ushered in with the fourth year.

A common theory peculiarly favoured by ignorant nurses and mothers is that children's questioning is a studied annoyance. The child has come to the use of words, and with all a child's 'cussedness' proceeds to torment the ears of those about him. There are signs, however, of a change of view on this point. The fact that the questioning follows on the heels of the reasoning impulse might tell us that it is connected with the throes which the young understanding has to endure in its first collision with a tough and baffling world. The question is the outcome of ignorance coupled with a belief in the boundless knowledge of grown-up people. It is an attempt to add to the scrappy, unsatisfying information about things which the little questioner's own observation has managed to gather, or others' half-understood words have succeeded in communicating. It is the outcome of intellectual craving, of a demand for mental food. But it is much more than an expression of need. Just as the child's articulate demand for food implies that he knows what food is, and that it is obtainable, so the question implies that the little questioner knows what he needs, and in what direction to look for it. The simplest form of question, *e.g.*, "What is this flower?" "this insect?" shows that the child by a half-conscious process of reflexion and reasoning has found his way to the truth that things have their qualities, their belongings, their names. Many questions, indeed, *e.g.*, 'Has the moon wings?'

'Where do all the days go to?' reveal a true process of childish thought and have a high value as expressions of this thought.

Questioning may take various directions. A good deal of the child's catechising of his long-suffering mother is prompted by thirst for fact.<sup>1</sup> The typical form of this line of questioning is 'What?' The motive here is to gain possession of some fact which will connect itself with and supplement a fact already known. 'How old is Rover?' 'Where was Rover born?' 'Who was his father?' 'What is that dog's name?' 'What sort of hair had you when you were a little girl?' These are samples of the questioning activity by help of which the little inquirer tries to make up his connected wholes, to see things with his imagination in their proper attachment and order. And how greedily and pertinaciously the small folk will follow up their questioning, flying as it often looks wildly enough from point to point, yet gathering from every answer some new contribution to their ideas of things. A boy of three years and nine months would thus attack his mother: 'What does frogs eat, and mice and birds and butterflies? and what does they do? and what is their names? What is all their houses' names? What does they call their streets and places?' etc., etc.

Such questions easily appear foolish because, as in the case just quoted, they are directed by quaint childish fancies. The child's anthropomorphic way of looking out on the world leads him to assimilate animal to human ways.

One feature in this fact-gleaning kind of question is the great store which the child sets by the name of a thing. M. Compayré has pointed out that the form of question: 'What is this?' often means, "What is it

<sup>1</sup> The first question put by Preyer's boy was, 'Where is mamma?' *Die Seele des Kindes*, p. 412. (The references are to the third edition, 1890.)

called?" The child's unformulated theory seems to be that everything has its own individual name. The little boy just spoken of explained to his mother that he thought all the frogs, the mice, the birds, and the butterflies had names given to them by their mothers as he himself had. Perhaps this was only a way of expressing the childish idea that everything has its name, primordial and unchangeable.

A second direction of this early questioning is towards the reason and the cause of things. The typical form is here 'why?' This form of inquiry occurred in the case of Preyer's boy at the age of two years forty-three weeks. But it becomes the all-predominant form of question somewhat later. Who that has tried to instruct the small child of three or four does not know the long shrill whine-like sound of this question? This form of question develops naturally out of the earlier, for to give the 'what?' of a thing, that is its connexions, is to give its 'why?' that is its mode of production, its use and purpose.

Nothing perhaps in child utterance is better worth interpreting, hardly anything more difficult to interpret, than this simple-looking little 'why?'

We ourselves perhaps do not use the word 'why' and its correlative 'because' with one clear meaning; and the child's first use of the words is largely imitative. What may be pretty safely asserted is that even in the most parrot-like and wearisome iteration of 'why?' and its equivalents 'what for?' etc., the child shows a dim recognition of the truth that a thing is understandable, that it has its reasons if only they can be found.

Let us in judging of this pitiless 'why?' try to understand the situation of the young mind confronted by so much that is strange and unassimilated, meeting by observation and hearsay with new and odd occurrences every day. The strange things standing apart from his tiny familiar world, the wide region of the quaint and puzzling

in animal ways, for example, stimulate the instinct to appropriate, to master. The little thinker must try at least to bring the new odd thing into some recognisable relation to his familiar world. And what is more natural than to go to the wise lips of the grown-up person for a solution of the difficulty? The fundamental significance of the 'why?' in the child's vocabulary, then, is the necessity of connecting new with old, of illuminating what is strange and dark by light reflected from what is already matter of knowledge. And a child's 'why?' is often temporarily satisfied by supplying from the region of the familiar an analogue to the new and unclassified fact. Thus his impulse to understand why pussy has fur, is met by telling him that it is pussy's hair.

It is only a step further in the same direction when the 'why?' has to be met by supplying a general statement; for to refer the particular to a general rule is a more perfect and systematic kind of assimilation. Now we know that children are very susceptible to the authority of precedent, custom, general rule. Just as in children's ethics customary permission makes a thing right, so in their logic the truth that a thing generally happens may be said to supply a reason for its happening in a particular case. Hence, when the much-abused nurse answers the child's question, 'Why is the pavement hard?' by saying, 'Because pavement is always hard,' she is perhaps less open to the charge of giving a woman's reason than is sometimes said.<sup>1</sup> In sooth the child's queries, his searchings for explanation, are, as already suggested, prompted by the desire for order and connectedness. And this means that he wants the general rule to which he can assimilate the particular and as yet isolated fact.

From the first, however, the 'why?' and its congeners have reference to the causal idea, to something which has brought the new and strange thing into existence and made

Cf. some shrewd remarks by Dr. Venn, *Empirical Logic*, p. 494.

it what it is. In truth this reference to origin, to bringing about or making, is exceedingly prominent in children's questionings. Nothing is more interesting to a child than the production of things. What hours and hours does he not spend in wondering how the pebbles, the stars, the birds, the babies are made. This vivid interest in production is to a considerable extent practical. It is one of the great joys of children to be able themselves to make things, and this desire to fashion, which is probably at first quite immense, and befitting rather a god than a feeble mannikin of three years, naturally leads on to inquiry into the mode of producing. Yet from the earliest a true speculative interest blends with this practical instinct. Children are in the complete sense little philosophers, if philosophy, as the ancients said, consists in knowing the causes of things. This discovery of the cause is the completed process of assimilation, of the reference of the particular to a general rule or law.

This inquiry into origin and mode of production starts with the amiable presupposition that all things have been hand-produced after the manner of household possessions. The world is a sort of big house where everything has been made by somebody, or at least fetched from somewhere. This application of the anthropomorphic idea of fashioning follows the law of all childish thought, that the unknown is assimilated to the known. The one mode of origin which the embryo thinker is really and directly familiar with is the making of things. He himself makes a respectable number of things, including these rents in his clothes, messes on the tablecloth, and the like, which he gets firmly imprinted on his memory by the authorities. And, then, he takes a keen interest in watching the making of things by others, such as puddings, clothes, houses, haystacks. To ask, then, who made the animals, the babies, the wind, the clouds, and so forth, is for him merely to apply the more familiar type of causation as norm or rule.

Similarly in all questions as to the 'whence?' of things, as in asking whether babies were bought in a shop.

The 'why?' takes on a more special meaning when the idea of purpose becomes clear. The search now is for the end, what philosophers call the teleological cause or reason. When, for example, a child asks 'Why does the wind blow?' he means, 'What is its object in blowing?' or 'Of what use is the blowing of the wind?'

The idea underlying the common form of the 'why?' interrogative deserves a moment's inspection. A child's view of causation starts like other ideas from his most familiar experiences. He soon finds out that his own actions are controlled by the desire to get or to avoid something, that, to speak in rather technical language, the idea of the result of the action precedes and determines this action.

I have lately come across a very early, and as I think, remarkable illustration of this form of childish thought. A little girl already quoted, whom we will call M., when one year eleven months old, happened to be walking with her mother on a windy day. At first she was delighted at the strong boisterous wind, but then got tired and said: 'Wind make mamma's hair untidy, Babba (her own name) make mamma's hair tidy, *so wind not blow adain* (again)'. About three weeks later this child was out in the rain, when she said to her mother: 'Mamma, dy (dry) Babba's hands, *so not rain any more*'. What does this curious inversion of the order of cause and effect mean? I am disposed to think that this little girl, who was unusually bright and intelligent, was transferring to nature's phenomena the forms of her own experience. When she is disorderly, and her mother or nurse arranges her hair or washes her hands, it is in order that she may not continue to be disorderly. The child is envisaging the wind and the rain as a kind of naughty child who can be got to behave properly by effacing the effects of its



naughtiness. In other words they are both to be deterred from repeating what is objectionable by a visible and striking manifestation of somebody's objection or prohibition. Here, it seems unmistakable, we have a projection into nature of human purpose, of the idea of determination of action by end: we have a form of anthropomorphism which runs through the whole of primitive thought.

It seems to follow from this that there is a stage in the development of a child's intelligence when questions such as, 'Why do the leaves fall?' 'Why does the thunder make such a noise?' are answered most satisfactorily by a poetic fiction, by saying, for example, that the leaves are old and tired of hanging on to the trees, and that the thunder giant is in a particularly bad temper and making a noise. It is perhaps permissible to make use of this fiction at times, more especially when trying to answer the untiring questioning about animals and their doings, a region of existence, by the way, of which even the wisest of us knows exceedingly little. Yet the device has its risks; and an ill-considered piece of myth-making passed off as an answer may find itself awkwardly confronted by that most merciless of things, a child's logic.

We may notice something more in this early mode of interrogation. Children are apt to think not only that things behave in general after our manner, that their activity is determined by some end or purpose, or that they have their useful function, their *raison d'être* as we say, but that this purpose concerns us human creatures. The wind and the rain came and went in our little girl's nature-theory just to vex or out of consideration for 'mamma' and 'Babba'. A little boy of two years two months sitting on the floor one day in a bad temper looked up and saw the sun shining and said captiously, 'Sun not look at Hennie,' and then more pleadingly, 'Please, sun, not look at poor Hennie'.<sup>1</sup> The sea, when the child C. first saw it, was

<sup>1</sup> See note by E. M. Stevens, *Mind*, xi., p. 150.

supposed to make its disturbing noise with special reference to his small ears. We may call this the anthropocentric idea, the essence of which is that man is the centre of reference, the aim or target, in all nature's processes. This anthropocentric tendency again is shared by the child with the uncultured adult. Primitive man looks on wind, rain, thunder as sent by some angry spirit, and even a respectable English farmer tends to view these operations of nature in much the same way. In children this anthropocentric impulse is apt to get toned down by their temperament, which is on the whole optimistic and decidedly practical, into a looking out for the *uses* of things. A boy, already quoted, once (towards the end of the fourth year) asked his mother what the bees do. This question he explained by adding: "What is the good of them?" When told that they made honey he observed pertinently enough from his teleological standpoint: "Then do they bring it for us to eat?" This shrewd little fellow might have made short work of some of the arguments by which the theological optimists of the last century were wont to 'demonstrate' the Creator's admirable adaptation of nature to man's wants.

✓ The frequency of this kind of 'why?' suggests that children's thoughts about things are penetrated with the idea of purpose and use. This is shown too in other ways. M. A. Binet found by questioning children that their ideas of things are largely made up of uses. Thus, asked what a hat is, a child answered: "Pour mettre sur la tête". Mr. H. E. Kratz of Sioux City sends me some answers to questions by children of five on entering a primary school, which illustrate the same point. Thus the question, 'What is a tree?' brings out the answers, 'To make the wind blow,' 'To sit under,' and so forth.

Little by little this idea of a definite purpose and use in this and that thing falls back and the child gets interested more in the production or origination of things. He

wants to know who made the trees, the birds, the stars and so forth. Here, though what we call efficient, as distinguished from final, cause is recognised, anthropomorphism survives in the idea of a maker analogous to the carpenter. We shall see later that children habitually envisage the deity as a fabricator.

All this rage of questioning about the uses and the origin of things is the outcome, not merely of ignorance and curiosity, but of a deeper motive, a sense of perplexity, of mystery or contradiction. It is not always easy to distinguish the two types of question, yet in many cases at least its form and the manner of putting it will tell us that it issues from a puzzled and temporarily baffled brain. As long as the questioning goes on briskly we may infer that a child believes in the possibility of knowledge, and has not sounded the deepest depths of intellectual despair. More pathetic than the saddest of questions is the silencing of questions by the loss of faith.

It is easy to see that children must find themselves puzzled with much which they see and hear of. The apparent exceptions to rules don't trouble the grown-up persons just because as *recurrent* exceptions they seem to take on a rule of their own. Thus adults though quite unversed in hydrostatics would be incapable of being puzzled by C.'s problem: why my putting my hand in water does not make a hole in it. Similarly, though they know nothing of animal physiology they are never troubled by the mystery of fish breathing under water, which when first noted by a child may come as a sort of shock. The little boy just referred to, in his far-reaching zoological interrogatory asked his mother: "Can they (the fish) breathe with their mousfs under water?"

In his own investigations, and in getting instruction from others, the child is frequently coming upon puzzles of this sort. The same boy was much exercised about the sea and where it went to. He expressed a wish to take off

his shoes and to walk out into the sea so as to see where the ships go to, and was much troubled on learning that the sea got deeper and deeper, and that if he walked out into it he would be drowned. At first he denied the paradox (which he at once saw) of the incoming sea going uphill: "But, mamma, it doesn't run up, it doesn't run up, so it couldn't come up over our heads?" He was told that this was so, and he wisely began to try to accommodate his mind to this startling revelation. C., it will be seen, was much exercised by this problem of the moving mass of waters, wanting to know whether it came half way up the world. Probably in both these cases the idea of water rising had its uncanny alarming aspect.

It is probable that the disappearance of a thing is at a very early stage a puzzle to the infant. Later on, too, the young mind continues to be exercised about this mystery. Our little friend's inquiry about the whither of the big receding sea, "Where does the sea sim (swim) to?" illustrates this perplexity. A child seems able to understand the shifting of an object of moderate size from one part of space to another, but his conception of space is probably not large enough to permit him to realise how a big tract of water can pass out of the visible scene into the unseen. The child's question, "Where does all the wind go to?" seems to have sprung from a like inability to picture a vast unseen realm of space.

In addition to this difficulty of the disappearance of big things, there seems to be something in the vastness, and the infinite number of existent things perceived and heard about, which puzzles and oppresses the young mind. The inability to take in all the new facts leads to a kind of resentment of their multitude. "Mother," asked a boy of four years, "why *is* there such a lot of things in the world if no one knows all these things?" One cannot be quite sure of the underlying thought here. The child may have meant merely to protest against the production of so con-

fusing a number of objects in the world. This certainly seems to be the motive in some children's inquiries, as when a little girl, aged three years seven months, said: 'Mamma, why do there be any more days, why do there? and why don't we leave off eating and drinking?' Here the burdensomeness of mere multiplicity, of the unending procession of days and meals, seems to be the motive. Yet it is possible that the question about a lot of things not known to anybody was prompted by a deeper difficulty, a dim presentiment of Berkeley's idealism, that things can exist only as objects of knowledge. This surmise may seem far-fetched to some, yet I have found what seem to me other traces of this tendency in children. A girl of six and a half years was talking to her father about the making of the world. He pointed out to her the difficulty of creating things out of nothing, showing her that when we made things we simply fashioned materials anew. She pondered and then said: "Perhaps the world's a fancy". Here again one cannot be quite sure of the child-thought behind the words. Yet it certainly looks like a falling back for a moment into the dreamy mood of the idealist, that mood in which we seem to see the solid fabric of things dissolve into a shadowy phantasmagoria.

The subject of origins is, as we know, beset with puzzles for the childish mind. The beginnings of living things are, of course, the great mystery. "There's such a lot of things," remarked the little zoologist I have recently been quoting, "I want to know, that you say nobody knows, mamma. I want to know who made God, and I want to know if Pussy has eggs to help her make ickle (little) kitties." Finding that this was not so, he observed: "Oh, then, I s'pose she has to have God to help her if she doesn't have kitties in eggs given her to sit on". Another little boy, five years old, found his way to the puzzle of the reciprocal genetic relation of the hen and the egg, and asked his mother: "When there is no egg where does the hen come from?"

When there *was* no egg, I mean, where *did* the hen come from?" In a similar way, as we shall see in C.'s journal, a child will puzzle his brains by asking how the first child was suckled, or, as a little girl of four and a half years put it, "When everybody was a baby—then who could be their nurse—if they were all babies?" The beginnings of human life are, as we know, a standing puzzle for the young investigator.

Much of this questioning is metaphysical in that it transcends the problems of every-day life and of science. The child is metaphysician in the sense in which the earliest human thinkers were metaphysicians, pushing his questioning into the inmost nature of things, and back to their absolute beginnings, as when he asks 'Who made God?' or 'What was there before God?'<sup>1</sup> He has no idea yet of the confines of human knowledge. If his mother tells him she does not know he tenaciously clings to the idea that somebody knows, the doctor it may be, or the clergyman—or possibly the policeman, of whose superior knowledge one little girl was forcibly convinced by noting that her father once asked information of one of these stately officials.

Strange, bizarre, altogether puzzling to the listener, are some of these childish questions. A little American girl of nine years after a pause in talk re-commenced the conversation by asking: "Why don't I think of something to say?" A play recently performed in a London theatre made precisely this appeal to others by way of getting at one's own motives a chief amusing feature in one of its comical characters. Another little American girl aged three one day left her play and her baby sister named Edna Belle to find her mother and ask: "Mamma, why isn't Edna Belle me, and why ain't I Edna Belle?"<sup>2</sup> The

<sup>1</sup> Illustrations are given by Compayré, *op. cit.*, and by P. Lombroso, *Psicologia del Bambino*, p. 47 ff.

<sup>2</sup> Quoted from an article, "Some Comments on Babies," by Miss Shinn in the *Overland Monthly*, Jan., 1894.

narrator of this story adds that the child was not a daughter of a professor of metaphysics but of practical farmer folk. One cannot be quite sure of the precise drift of this question. It may well have been the outcome of a new development of self-consciousness, of a clearer awareness of the self in its distinctness from others. A question with a much clearer metaphysical ring about it, showing thought about the subtlest problems, was that put by a boy of the same age: "If I'd gone upstairs, could God make it that I hadn't?" This is a good example of the type of question: 'Can he make a thing done, not to have been done?' which according to Erasmus was much debated by theologians.<sup>1</sup>

With many children confronted with the mysteries of God and the devil this questioning often reproduces the directions of theological speculation. Thus the problem of the necessity of evil is clearly recognisable in the question once put by an American boy under eight years of age to a priest who visited his home: "Father, why don't God kill the devil and then there would be no more wickedness in the world?"

All children's questioning does not of course take this sublime direction. Along with the tendency to push back inquiry to the unreachable beginning of things we mark a more modest and scientific line of investigation into the observable and explainable processes of nature. Some questions which a busy listener would pooh-pooh as dreamy have a genuinely scientific value, showing that the little inquirer is trying to work out some problem of fact. This is illustrated by a question put by a little boy aged three years nine months: "Why don't we see two things with our two eyes?" a problem which, as we know, has exercised older psychologists.

When this more definitely scientific direction is taken by a child's questioning we may observe that the ambitious 'why?' begins to play a second *rôle*, the first being now

<sup>1</sup> Froude, *Letters of Erasmus*, Lect. vii.

taken by the more modest 'how?' The germ of this kind of inquiry may be present in some of the early questioning about growth. "How," asked our little zoologist, "does plants grow when we plant them, and how does boys grow from babies to big boys like me? Has I grown now whilst I was eating my supper? See!" and he stood up to make the most of his stature. Clearer evidence of a directing of inquiry into the processes of things appears in the fifth and sixth years. A little girl of four years seven months among other questionings wanted to know what makes the trains move, and how we move our eyes. The incessant inquiries of the boy Clark Maxwell into the 'go' of this thing or the 'particular go' of that illustrate in a clearer manner the early tendency to direct questioning to the more manageable problems to which science confines itself.

These different lines of questioning are apt to run on concurrently from the end of the third year, a fit of eager curiosity about animals or other natural objects giving place to a fit of theological inquiry, this again being dropped for an equally eager inquiry into the making of clocks, railway engines, and so on. Yet through these alternating bouts of questioning we can distinguish something like a law of intellectual progress. Questioning as the most direct expression of a child's curiosity follows the development of his groups of ideas and of the interests which help to construct these. Thus I think it a general rule that questioning about the make or mechanism of things follows questioning about animal ways just because the zoological interest (in a very crude form of course) precedes the mechanical. The scope of this early questioning will, moreover, expand with intellectual capacity, and more particularly the capability of forming the more abstruse kind of childish idea. Thus inquiries into absolute beginnings, into the origin of the world and of God himself, indicate the presence of a larger intellectual grasp of time-relations and of the processes of becoming.



Our survey of the field of childish questioning suggests that it is by no means an easy matter to deal with. It must be admitted, I think, by the most enthusiastic partisan of children that their questioning is of very unequal value. It may often be noticed that a child's 'why?' is used in a sleepy mechanical way with no real desire for knowledge, any semblance of answer being accepted without an attempt to put a meaning into it. A good deal of the more importunate kind of children's questioning, when they follow up question by question recklessly, as it seems, and without definite aim, appears to be of this formal and lifeless character, an expression not of a healthy intellectual activity, but merely of a mood of general mental discontent and peevishness. In a certain amount of childish questioning, indeed, we have, I suspect, to do with a distinctly abnormal mental state, with an analogue of that mania of questions, or passion for mental rummaging or prying into everything, "Grubelsucht" as the Germans call it, which is a well-known phase of mental disease, and prompts the patient to put such questions as this: "Why do I stand here where I stand?" "Why is a glass a glass, a chair a chair?" Such questioning ought, it is evident, not to be treated too seriously. We may attach too much significance to a child's question, labouring hard to grasp its meaning, with a view to answering it, when we should be wiser if we viewed it as a symptom of mental irritability and peevishness, to be got rid of as quickly as possible by a good romp or other healthy distraction.<sup>1</sup>

To admit, however, that children's questions may now and again need this sort of wholesome snubbing is far from saying that we ought to treat all their questioning with a mild contempt. The little questioners flatter us by attributing superior knowledge to us, and good manners should compel us to treat their questions with some attention. And if now and then they torment us with a string of

<sup>1</sup> Cf. Perez, *L'Education dès le berceau*, p. 45 ff.

random reckless questioning, in how many cases, one wonders, are they not made to suffer, and that wrongfully, by having perfectly serious questions rudely cast back on their hands? The truth is that to understand and to answer children's questions is a considerable art, including both a large and deep knowledge of things, and a quick sympathetic insight into the little questioners' minds, and few of us have at once the intellectual and the moral excellences needed for an adequate treatment of them. It is one of the tragi-comic features of human life that the ardent little explorer looking out with wide-eyed wonder upon his new world should now and again find as his first guide a nurse or even a mother who will resent the majority of his questions as disturbing the luxurious mood of indolence in which she chooses to pass her days. We can never know how much valuable mental activity has been checked, how much hope and courage cast down by this kind of treatment. Yet happily the questioning impulse is not easily eradicated, and a child who has suffered at the outset from this wholesale contempt may be fortunate enough to meet, while the spirit of investigation is still upon him, one who knows and who has the good nature and the patience to impart what he knows in response to a child's appeal.

#### IV.

#### PRODUCTS OF CHILD-THOUGHT.

##### *The Child's Thoughts about Nature.*

WE have seen in the previous article how a child's mind behaves when brought face to face with the unknown. We will now examine some of the more interesting results of this early thought-activity, what are known as the characteristic ideas of children. There is no doubt, I think, that children, by reflecting on what they see or otherwise experience and what they are told by others, fashion their own ideas about nature, death and the rest. This tendency, as pointed out above, discloses itself to some extent in their questions about things. It has now to be more fully studied in their sayings as a whole. The ideas thus formed will probably prove to vary considerably in the case of different children, yet to preserve throughout these variations a certain general character.

These ideas, moreover, like those of primitive races, will be found to be a crude attempt at a connected system. We must not, of course, expect too much here. The earliest thought of mankind about nature and the supernatural was very far from being elaborated into a consistent logical whole; yet we can see general forms of conception or tendencies of thought running through the whole. So in the case of this largely spontaneous child-thought. It will disclose to an unsparing critical inspection vast gaps, and many unsurmounted contradictions. Thus in the case of

children, as in that of uncultured races, the supernatural realm is at first brought at most into only a very loose connexion with the visible world. All the same there is seen, in the measure of the individual child's intelligence, the endeavour to co-ordinate, and the poor little hard-pressed brain of a child will often pluckily do its best in trying to bring some connexion into that congeries of disconnected worlds into which he finds himself so confusingly introduced, partly by the motley character of his own experiences, as the alternations of waking and sleeping, partly by the haphazard miscellaneous instruction, mythological, historical, theological, and the rest, with which we inconsiderately burden his mind.

As was observed in dealing with children's imaginative activity, this primitive child-lore, like its prototype in folk-lore, is largely a product of a naïve vivid fancy. In assigning the relations of things and their reasons, a child's mind does not make use of abstract conceptions. It does not talk about "relation," but pictures out the particular relation it wants to express by a figurative expression, as in apperceiving the juxtaposition of moon and star as mamma and baby. So it does not talk of abstract force, but figures some concrete form of agency, as in explaining the wind by the idea of somebody's waving a big fan somewhere. This first crude attempt of the child to envisage the world is, indeed, largely mythological, proceeding by the invention of concrete and highly pictorial ideas of fairies, giants and their doings.

The element of thought comes in with the recognition of the real as such, and with the application of the products of young phantasy to comprehending and explaining this reality. And here we see how this primitive child-thought, though it remains instinct with glowing imagery, differentiates itself from pure fancy. This last knows no restraint, and aims only at the delight of its spontaneous play-like movements, whereas thought is essentially the

serious work of realising and understanding what exists. The contrast is seen plainly enough if we compare the mental attitude of the child when he is frankly romancing, giving out now and again a laugh, which shows that he himself fully recognises the absurdity of his talk, with his attitude when in gravest of moods he is calling upon his fancy to aid reason in explaining some puzzling fact.

How early this splitting of the child's imaginative activity into these two forms, the playful and the thoughtful, takes place is not, I think, very easy to determine. Many children at least are apt at first to take all that is told them as gospel. To most of them about the age of three and four, I suspect, fairyland, if imagined at all, is as much a reality as the visible world. The disparity of its contents, the fairies, dragons and the rest, with those of the world of sense does not trouble their mind, the two worlds not being as yet mentally juxtaposed and dovetailed one into the other. It is only later when the desire to understand overtakes and even passes the impulse to frame bright and striking images, and, as a result of this, critical reflexion applies itself to the nursery legends and detects their incongruity with the world of every-day perception, that a clear distinction comes to be drawn between reality and fiction, what exists and can (or might) be verified by sense, and what is only pictured by the mind.

With this preliminary peep into the *modus operandi* of children's thought, let us see what sort of ideas of things they fashion.

Beginning with their ideas of natural objects we find, as has been hinted, the influence of certain predominant tendencies. Of these the most important is the impulse to think of what is far off, whether in space or time, and so unobservable, as like what is near and observed. Along with this tendency, or rather as one particular development of it, there goes the disposition already illustrated, to vivify nature, to personify things and so to assimilate their

behaviour to the child's own, and to explain the origin of things by ideas of making and aiming at some purpose. Since, at the same time that these tendencies are still dominant, the child by his own observation and by such instruction as he gets, is gaining insight into the 'how,' the mechanism of things, we find that his cosmology is apt to be a quaint jumble of the scientific and the mythological. Thus the boy C. tried to conceive of the divine creation of men as a mechanical process with well-marked stages—the fashioning of stone men, iron men, and then real men. In many cases we can see that a nature-myth comes in to eke out the deficiencies of mechanical insight. Thus, the production of thunder and other strange and inexplicable phenomena is referred, as by the savage, and even by many so-called civilised men and women, to the direct interposition of a supernatural agency. The theological idea with which children are supplied is apt to shape itself into that of a capricious and awfully clever demiurgos, who not only made the world-machine but alters its working as often as he is disposed. With this idea of a supernatural agent there is commonly combined that of a natural process as means employed, as when thunder is supposed to be caused by God's treading heavily on the floor of the sky. Contradictions are not infrequent, the mythological impulse sometimes alternating with a more distinctly scientific impulse to grasp the mechanical process, as when wind is sometimes thought of, as caused by a big fan, and sometimes, *e.g.*, when heard moaning in the night, endowed with life and feeling.

I shall make no attempt to give a methodical account of children's thoughts about nature. I suspect that a good deal more material will have to be collected before a complete description of these thoughts is possible. I shall content myself with giving a few samples of their ideas so far as my own studies have thrown light on them.

With respect to the make or substance of things children

are, I believe, disposed to regard all that they see as having the resistant quality of solid material substance.

At first, that is to say after the child has had experience enough of seeing and touching things at the same time to know that the two commonly go together, he believes that all which he sees is tangible or substantial. Thus he will try to touch shadows, sunlight dancing on the wall, and picture forms. This tendency to "reify," or make things of, his visual impressions shows itself in pretty forms, as when the little girl M., one year eleven months old, "gathered sunlight in her hands and put it on her face". The same child about a month earlier expressed a wish to wash some black smoke. This was the same child that tried to make the wind behave by making her mother's hair tidy; and her belief in the material reality of the wind was shown by her asking her mother to lift her up high so that she might see the wind. This last, it is to be noted, was an inference from touching and resisting to seeing.<sup>1</sup> Wind, it has been well remarked, keeps something of its substantiality for all of us long after shadows have become the type of unreality, proving that the experience of resisting something lies at the root of our sense of material substance. That older children believe in the wind as a living thing seems suggested by the readiness with which they get up a kind of play-tussle with it. That wind even in less fanciful moments is reified is suggested by the following story from the Worcester collection. A girl aged nine was looking out and seeing the wind driving the snow in the direction of a particular town, Milbury: whereupon she remarked, "I'd like to live down in Milbury". Asked why, she replied, "There must be a lot of wind down there, it's all blowing that way".

Children, as may be seen in this story, are particularly interested in the movements of things. Movement is the

<sup>1</sup> Compare R. L. Stevenson's lines to the wind:

"I felt you push, I heard you call,  
I could not see yourself at all".

*A Child's Garden of Verse*, xxv.

clearest and most impressive manifestation of life. All apparently spontaneous or self-caused movements are accordingly taken by children, as by primitive man, to be the sign of life, the outcome of something analogous to their own impulses. Hence the movements of falling leaves, of running water, of feathers and the like are specially suggestive of life. Wind owes much of its vitality, as seen in the facile personification of it by the poet, to its apparently uncaused movements. Some children in the Infant Department of a London Board School were asked what things in the room were alive, and they promptly replied the smoke and the fire. Big things moving by an internal mechanism of which the child knows nothing, more especially engines, are of course endowed with life. A little girl of thirteen months offered a biscuit to a steam-tram, and the author of *The Invisible Playmate* tells us that his little girl wanted to stroke the "dear head" of a locomotive. A child has been known to ask whether a steam-engine was alive. In like manner, savages on first seeing the self-moving steamer take it for a big animal. The fear of a dog at the sight of an unfamiliar object appearing to move of itself, as a parasol blown along the ground by the wind, seems to imply a rudiment of the same impulse to interpret self-movement as a sign of life.<sup>1</sup>

The child's impulse to give life to moving things may lead him to overlook the fact that the movement is caused by an external force, and this even when the force is exerted by himself. The boy C. on finding the cushion he was sitting upon slipping from under him in consequence of his own wriggling movements pronounced it alive. In like manner children, as suggested above, ascribe life to their moving playthings. Thus, C.'s sister when five years old stopped one day trundling her hoop, and turning to her mother, exclaimed: "Ma, I do think this hoop must be alive, it is so sensible: it goes where I want it to".

<sup>1</sup> See P. Lombroso, *op. cit.*, p. 26 ff.



Another little girl two and a quarter years old on having a string attached to a ball put into her hand, and after swinging it round mechanically, began to notice the movement of the ball, and said to herself, "Funny ball!" In both these cases, although the movement was directly caused by the child, it was certainly in the first case, and apparently in the second, attributed to the object.

Next to movement apparently spontaneous sound appears to be a common reason for attributing life to inanimate objects. Are not movement and vocal sound the two great channels of utterance of the child's own impulses? The little girl M., when just two years old, being asked by her mother for a kiss, answered prettily, 'Tiss (kiss) gone away'. This may, of course, have been merely a child's way of using language, but the fact that the same little girl asked to see a 'knock' suggests that she was disposed to give reality and life to sounds. Its sound greatly helps the persuasion that the wind is alive. A little boy assured his teacher that the wind was alive, for he heard it whistling in the night. The ascription of life to fire is probably aided by its sputtering crackling noises. The impulse, too, to endow so little organic-looking an object as a railway engine with conscious life is probably supported by the knowledge of its puffing and whistling. Pierre Loti, when as a child he first saw the sea, regarded it as a living monster, no doubt on the ground of its movement and its noise. The personification of the echo by the child, of which George Sand's reminiscences give an excellent example, as also by uncultured man, is a signal illustration of the suggestive force of a voice-like sound.

Closely connected with this impulse to ascribe life to what older folk regard as inanimate objects is the tendency to conceive them as growing. This is illustrated in the remark of the boy C., that his stick would in time grow bigger. On the other hand, there is in the Worcester Collec-

tion a curious story of a little American boy of three who, having climbed up into a large waggon, and being asked, "How are you going to get out?" replied, "I can stay here till it gets little and then I can get out my own self". We shall see presently that shrinkage or diminution of size is sometimes attributed by the child-mind to people when getting old. So that we seem to have in each of these cases the extension to things generally of an idea first formed in connexion with the observation of human life.

Children's ideas of natural objects are anthropomorphic, not merely as reflecting their own life, but as modelled after the analogy of the effects of their action. Quite young children are apt to extend the ideas broken and mended to objects generally. Anything which seems to have become reduced by losing a portion of itself is said to be 'broken'. A little boy of three, on seeing the moon partly covered by a cloud, remarked, "The moon is broken". On the other hand, in the case of one little boy, everything intact was said to be mended. It may be said, however, that we cannot safely infer from such analogical use of common language that children distinctly think of all objects as undergoing breakage and repair: for these expressions in the child's vocabulary may refer rather to the resulting appearances, than to the processes by which they are brought about.

Clearer evidences of this reflexion on to nature of the characteristics of his own life appear when a child begins to speculate about mechanical processes, which he invariably conceives of after the analogy of his own actions. This was illustrated in dealing with children's questions. We see it still more clearly manifested in some of their ideas. One of the most curious instances of this that I have met with is seen in early theorisings about the cause of wind. One of the children examined by Mr. Kratz said the tree was to make the wind blow. A pupil of mine distinctly recalls that when a child he accounted for the

wind at night by the swaying of two large elms in front of the house and not far from the windows of his bedroom. This reversing of the real order of cause and effect looks silly, until we remember that the child necessarily looks at movement in the light of his own actions. He moves things, *e.g.*, the water, by his moving limbs; we set the air in motion by a moving fan; it seems, therefore, natural to him that the wind-movements should be caused by the pressure of some moving thing; and there is the tree actually seen to be moving.

So far I have spoken for the most part of children's ideas about near and accessible objects. Their notions of what is distant and inaccessible are, as remarked, wont to be formed on the model of the first. Here, however, their knowledge of things will be largely dependent on others' information, so that the naïve impulse of childish intelligence has, as best it may, to work under the limitations of an imperfectly understood language.

It is perhaps hardly necessary to remind the reader that children's ideas of distance before they begin to travel far are necessarily very inadequate. They are disposed to localise the distant objects they see, as the sun, moon and stars, and the places they hear about on the earth's surface as near as possible. The tendency to approximate things as seen in the infant's stretching out of the hand to touch the moon lives on in the later impulse to localise the sky and heavenly bodies just beyond the farthest terrestrial object seen, as when a child thought they were just above the church spire, another that they could be reached by tying a number of ladders together, another that the setting sun went close behind the ridge of hills, and so forth. The stars, being so much smaller looking, seem to be located farther off than the sun and moon. Similarly when they hear of a distant place, as India, they tend to project it just beyond the farthest point known to them, say Hampstead, to which they were once taken on a long, long journey from

their East End home. A child's standard of size and distance is, as all know who have revisited the home of their childhood after many years, very different from the adult's. To the little legs unused as yet to more than short spells of locomotion a mile seems stupendous: and then the half-formed brain cannot yet pile up the units of measurement well enough to conceive of hundreds and thousands of miles.

The child appears to think of the world as a circular plain, and of the sky as a sort of inverted bowl upon it. C.'s sister used on looking at the sky to fancy she was inside a blue balloon. That is to say he takes them to be what they look. In a similar manner C. took the sun to be a great disc which could be put on the round globe to make a 'see-saw'. When this 'natural realism' gets corrected, children go to work to convert what is told them into an intelligible form. Thus they begin to speculate about the other side of the globe, and, as Mr. Barrie reminds us, are apt to fancy they can know about it by peeping down a well. When religious instruction introduces the new region of heaven they are apt to localise it just above the sky, which to their thought forms its floor. Some genuine thought-work is seen in the effort to harmonise the various things they learn by observation and instruction about the celestial region into a connected whole. Thus the sky is apt to be thought of as *thin*, this idea being probably formed for the purpose of explaining the shining through of moon and stars. Stars are, as we know, commonly thought of by the child as holes in the sky letting through the light beyond. One Boston child ingeniously applied the idea of the thinness of the sky to explain the appearance of the moon when one half is bright and the other faintly illumined, supposing it to be half-way through the partially diaphanous floor. Others again prettily accounted for the waning of the moon to a crescent by saying it was half stuck or half buttoned into the sky.

The movements of the sun and other heavenly bodies are similarly apperceived by help of ideas of movements of familiar terrestrial objects. Thus the sun was thought by the Boston children half-mythologically, half-mechanically, to roll, to fly, to be blown (like a soap bubble or balloon?) and so forth. The anthropocentric form of teleological explanation is apt to creep in, as when a Boston child said charmingly that the moon comes round when people forget to light some lamps. Theological ideas, too, are pressed into this sphere of explanation, as in the attribution of the disappearance of the sun to God's pulling it up higher out of sight, to his taking it into heaven and putting it to bed, and so forth. These ideas are pretty obviously not those of a country child with a horizon. There is rather more of nature-observation in the idea of another child that the sun after setting lies under the trees where angels mind it.

The impressive phenomena of thunder and lightning give rise in the case of the child as in that of the Nature-man to some fine myth-making. The American children, as already observed, have different mechanical illustrations for setting forth the *modus* of the supernatural operation here, thunder being thought of now as God groaning, now as his walking heavily on the floor of heaven (*cf.* the old Norse idea that thunder is caused by the rolling of Thor's chariot), now as his hammering, now as his having coals run in—ideas which show how naively the child-mind humanises the Deity, making him a respectable citizen with a house and a coal-cellar. In like manner the lightning is attributed to God's burning the gas quick, striking many matches at once, or other familiar human device for getting a brilliant light suddenly. So God turns on rain by a tap, or lets it down from a cistern by a hose, or, better, passes it through a sieve or a dipper with holes.<sup>1</sup> In like manner a high wind was explained by a girl of five and a

<sup>1</sup> See the article on "The Contents of Children's Minds" already referred to.

half by saying that it was God's birthday, and he had received a trumpet as a present.

Throughout the whole region of these mysterious phenomena we have illustrations of the anthropocentric tendency to regard what takes place as designed for us poor mortals. The little girl of whom Mr. Canton writes thought "the wind, and the rain and the moon 'walking' came out to see *her*, and the flowers woke up with the same laudable object".<sup>1</sup> When frightened by the crash of the thunder a child instinctively thinks that it is all done to vex his little soul. One of the funniest examples of the application of this idea I have met with is in the Worcester Collection. Two children, D. and K., aged ten and five respectively, live in a small American town. D., who is reading about an earthquake, addresses his mother thus: "Oh, isn't it dreadful, mamma? Do you suppose we will ever have one here?" K., intervening with the characteristic impulse of the young child to correct his elders: "Why, no, D., they don't have earthquakes in little towns like this". There is much to unravel in this delightful childish observation. It looks to my mind as if the earthquake were envisaged by the little five-year-old as a show, God being presumably the travelling showman, who takes care to display his fearful wonders only where there is an adequate body of spectators.

Finally, the same impulse to understand the new and strange by assimilating it to the familiar is, so far as I can gather, seen in children's first ideas about those puzzling semblances of visible objects which are due to subjective sensations. As we shall see in C.'s case the bright spectra or after-images caused by looking at the sun are instinctively objectified by the child, that is regarded as things external to his body. Here is a pretty full account of a child's thought about these subjective optical phenomena. A little boy of five, our little zoologist, in poor health at the time, "constantly imagined he saw angels, and said they were

<sup>1</sup> *The Invisible Playmate*, pp. 27, 28.

not white, that was a mistake, they were little coloured things, light and beautiful, and they went into the toy-basket and played with his toys". Here we have not only objectifying but myth-building. A year later he returned to the subject. "He stood at the window at B. looking out at a sea-mist thoughtfully and said suddenly, 'Mamma, do you remember I told you that I had seen angels? Well, I want now to say they were not angels, though I thought they were. I have seen it often lately, I see it now: it is bright stars, small bright stars moving by. I see it in the mist before that tree. I see it oftenest in the misty days. . . . Perhaps by-and-by I shall think it is something in my own eyes.'" Here we see a long and painstaking attempt of a child's brain to read a meaning into the 'flying spots,' which many of us know though we hardly give them a moment's attention.

What are children's first thoughts about their dreams like? I have not been able to collect much evidence on this head. What seems certain is that to the simple intelligence of the child these counterfeits of ordinary sense-presentations are real external things. The crudest manifestation of this thought-tendency is seen in taking the dream-apparition to be actually present in the bedroom. A boy in an elementary school in London, aged five years, said one day: "Teacher, I saw an old woman one night against my bed". Another child, a little girl, in the same school told her mother that she had seen a funeral last night, and on being asked, "Where?" answered quaintly, "I saw it in my pillow". A little boy whom I know once asked his mother not to put him to bed in a certain room, "because there were so many dreams in the room". In thus materialising the dream and localising it in the actual surroundings, the child but reflects the early thought of the race which starts from the supposition that the man or animal which appears in a dream is a material reality which actually approaches the sleeper.

The Nature-man, as we know from Professor Tylor's researches, goes on to explain dreams by his theory of 'souls' or 'doubles' (animism). Children do not often find their way to so subtle a line of thought. Much more commonly they pass from the first stage of acceptance of objects present to their senses to the identification of dreamland with the other and invisible world of fairyland. There is little doubt that the imaginative child firmly believes in the existence of this invisible world, keeps it apart from the visible one, even though at times he may give it a definite locality in this (*e.g.*, in C.'s case, the wall of the bedroom). He gets access to it by shutting out the real world, as when he closes his eyes tightly and 'thinks'. With such a child, dreams get taken up into the invisible world. Going to sleep is now recognised as the surest way of passing into this region. The varying colour of his dreams, now bright and dazzling in their beauty, now black and terrifying, may be explained by a reference to the division of that fairy world into princes, good fairies, on the one hand, and cruel giants, witches, and the like, on the other.

We may now pass to some of children's characteristic ideas about living things, more particularly human beings, and the familiar domestic animals. The most interesting of these I think are those respecting growth and birth.

As already mentioned, growth is one of the most stimulating of childish puzzles. A child, led no doubt by what others tell him, finds that things are in general made bigger by additions from without, and his earliest conception of growth is, I think, that of such addition. Thus, plants are made to grow, that is, swell out, by the rain. The idea that the growth or expansion of animals comes from eating is easily reached by the childish intelligence, and, as we know, nurses and parents have a way of recommending the less attractive sorts of diet by telling children that they will make them grow. The idea that the sun makes us grow, often suggested by parents (who may be ignorant of the



fact that growth is more rapid in the summer than in the winter), is probably interpreted by the analogy of an infusion of something into the body.

In carrying out my inquiries into this region of childish ideas, I lighted quite unexpectedly on the queer notion that towards the end of life there is a reverse process of shrinkage. Old people are supposed to become little again. The first instance of this was supplied me by the Worcester Collection of Thoughts. A little girl of three once said to her mother: "When I am a big girl and you are a little girl I shall whip you just as you whipped me now". At first one is almost disposed to think that this child must have heard of Mr. Anstey's amusing story *Vice Versâ*. Yet this idea seems too improbable: and I have since found that she is not by any means the only one who has entertained this idea. A little boy that I know, when about three and a half years old, used often to say to his mother with perfect seriousness of manner: "When I am big then you will be little, then I will carry you about and dress you and put you to sleep".

I happened to mention this fact at a meeting of mothers and teachers, when I received further evidence of this tendency of child-thought. One lady whom I know could recollect quite clearly that when a little girl she was promised by her aunt some treasures, trinkets I fancy, when she grew up; and that she at once turned to her aunt and promised her that she would then give her in exchange all her dolls, as by that time she (the aunt) would be a little girl. Another case narrated was that of a little girl of three and a half years, who when her elder brother and sister spoke to her about her getting big rejoined: "What will you do when you are little?" A third case mentioned was that of a child asking about some old person of her acquaintance: "When will she begin to get small?" I have since obtained corroboratory instances from parents and teachers of infant classes. Thus a lady writes that a

little girl, a cousin of hers aged four, to whom she was reading something about an old woman, asked : "Do people turn back into babies when they get quite old?"

What, it may be asked, does this queer idea of shrinkage in old age mean? By what quaint zig-zag movement of childish thought was the notion reached? I cannot learn that there is any such idea in primitive folk-lore, and this suggests that children find their way to it, in part at least, by the suggestions of older people's words. A child may, no doubt, notice that old people stoop, and look small, and the fairy book with little old women may strengthen the tendency to think of shrinkage. But I cannot bring myself to believe that this would suffice to produce the idea in so many cases.

That there is much in what the little folk hear us say fitted to raise in their minds an idea of shrinking back into child-form is certain. Many children must, at some time or another, have overheard their elders speaking of old feeble people getting childish ; and we must remember that even the attributive 'silly' applied to old people might lead a child to infer a return to childhood ; for if there is one thing that children—true unsophisticated children—believe in it is the all-knowingness of grown-ups as contrasted with the know-nothingness of themselves. C.'s belief in the preternatural calculating powers of Goliath is an example of this correlation in the child's consciousness between size and intelligence.<sup>1</sup>

But I suspect that there is a further source of this characteristic product of early thought, involving still more of the child's philosophizing. As we have seen, a child cannot accept an absolute beginning of things, and we shall presently find that he is equally incapable of believing

<sup>1</sup> That this is not the complete explanation is suggested by a story told by Perez. His nephew, over four years, on meeting a little old man said to his uncle : "When I shall be a little old man, will you be young?" (*L'Enfant de trois à sept ans*, p. 219).

in an absolute ending. He knows that we begin our earthly life as babies. Well, the babies must come from something, and when we die we must pass into something. What more natural, then, than the idea of a rhythmical alternation of cycles of existence, babies passing into grown-ups, and these again into babies, and so the race kept going? Does this seem too far-fetched an explanation? I think it will be found less so if it is remembered that according to our way of instructing these active little brains, people are brought to earth as babies in angels' arms, and that when they die they are taken back also in angels' arms. Now as the angel remains of constant size,—for this their pictures vouch—it follows that old people, when they are dead at least, must have shrivelled up to nursable dimensions; and as the child, when he philosophizes, knows nothing of miraculous or cataclasmic changes, he naturally supposes that this shrivelling up is gradual like that of flowers and other things when they fade.<sup>1</sup>


I am disposed to think, then, that in this idea of senile shrinkage we have one of the most interesting and convincing examples of a child's philosophizing, of his impulse to reflect on what he sees and hears about with a view to systematise. Yet the matter requires further observation. Is it thoughtful, intelligent children, who excogitate this idea? Would it be possible to get the child's own explanation of it before he has completely outgrown it?<sup>2</sup>

The origin of babies and young animals furnishes the small brain, as we have seen, with much food for speculation. Here the little thinker is not often left to excogitate a

<sup>1</sup> Perhaps, too, our way of playfully calling children little old men and women favours the supposition that they are old people turned young again.

<sup>2</sup> Egger quotes a remark of a little girl: "I shall carry Emile (her older brother) when he gets little". This may, as Egger suggests, have been merely a confusion of the conditional and the future. But the idea about old people's shrinking cannot be dismissed in this summary way (see Perez, *First Three Years of Childhood*, p. 224).

theory for himself. His inconvenient questionings in this direction have to be firmly checked, and various and truly wonderful are the ways in which the nurse and the mother are wont to do this. Any fiction is supposed to be good enough for the purpose. Divine action, as remarked above, is commonly called in, the questioner being told that the baby has been sent down from heaven in the arms of an angel and so forth. Fairy stories with their pretty conceits, as that of the child Thumbkin growing out of a flower in Hans Andersen's book, contribute their suggestions, and so there arises a mass of child-lore about babies in which we can see that the main ideas are supplied by others, though now and again we catch a glimpse of the child's own contributions. Thus according to Stanley Hall's report the Boston children said, among other things, that God makes babies in heaven, lets them down or drops them for the women and doctors to catch them, or that he brings them down a wooden ladder backwards and pulls it up again, or that mamma, nurse or doctor goes up and fetches them in a balloon. They are said by some to grow in cabbages or to be placed by God in water, perhaps in the sewer, where they are found by the doctor, who takes them to sick folks that want them. Here we have delicious touches of childish fancy, quaint adaptations of fairy and Bible lore, as in the use of Jacob's ladder and of the legend of Moses placed among the bulrushes, this last being enriched by the thorough master-stroke of child-genius, the idea of the dark, mysterious, wonder-producing sewer. In spite too of all that others do to impress the traditional notions of the nursery here, we find that a child will now and again think out the whole subject for himself. The little boy C. is not the only one I find who is of the opinion that babies are got at a shop. Another little boy, I am informed, once asked his mamma in the abrupt childish manner, "Mamma, vere did Tommy (his own name) tum (come) from?" and then with the equally childish way of



sparing you the trouble of answering his question, himself observed, quite to his own satisfaction, "Mamma did tie (buy) Tommy in a s'op (shop)". Another child, seeing the announcement "Families Supplied" in a grocer's shop, begged his mother to get him a baby. This looks like a real childish idea. To the young imagination the shop is a veritable wonderland, an Eldorado of valuables, and it appears quite reasonable to the childish intelligence that babies like dolls and other treasures should be procurable there.

The ideas partly communicated by others, partly thought out for themselves are carried over into the beginnings of animal life. Thus, as we have seen, one little boy supposed that God helps pussy to have "'ickle kitties," seeing that she hasn't any kitties in eggs given her to sit upon.

### *Psychological Ideas.*

We may now pass to some of the characteristic modes of child-thought about that standing mystery, the self. As our discussion of the child's ideas of origin, growth and final shrinkage suggests, a good deal of his most earnest thinking is devoted to problems relating to himself.

The date of the first thought about self, of the first dim stage of self-awareness, probably varies considerably in the case of different children according to rapidity of mental development and circumstances. The little girl, who was afterwards to be known as George Sand, may be supposed to have had an exceptional development; and the accident of infancy to which she refers as having aroused the earliest form of self-consciousness was, of course, exceptional too. There are probably many robust and dull children, knowing little of life's misery, and allowed in general to have their own way, who have but little more of self-consciousness than that, say, of a young, well-favoured porker.

The earliest idea of self seems to be obtained by the child through an examination by the senses of touch and

sight of his own body. A child has been observed to study his fingers attentively in the fourth and fifth month, and this scrutiny goes on all through the second year and even into the third.<sup>1</sup> Children seem to be impressed quite early by the fact that in laying hold of a part of the body with the hand they get a different kind of experience from that which they obtain when they grasp a foreign object. Through these self-graspings, self-strikings, self-bitings, aided by the very varied, and often extremely disagreeable operations of the nurse and others on the surface of their bodies, they probably reach during the first year the idea that their body is different from all other things, is 'me' in the sense that it is the living seat of pain and pleasure. The growing power of movement of limb, especially when the crawling stage is reached, gives a special significance to the body as that which can be moved, and by the movements of which interesting and highly impressive changes in the environment, *e.g.*, bangs and other noises, can be produced.

It is probable that the first ideas of the bodily self are ill-defined. It is evident that the head and face are not known at first as a *visible* object. The upper limbs by their movement across the field of vision would come in for the special notice of the eye. We know that the baby is at an early date wont to watch its hands. The lower limbs, moreover, seem to receive special attention from the exploring and examining hand.

There is some reason to think, however, that in spite of these advantages, the limbs form a less integral and essential part of the bodily self than the trunk. A child in his second year was observed to bite his own finger till he cried with pain. He could hardly have known it as a part of his sensitive body. Preyer tells us of a boy of nineteen months who when asked to give his foot seized it with both hands

<sup>1</sup> For the facts see Preyer, *op. cit.*, cap. xxii.; Tracy, *The Psychology of Childhood*, p. 47.

and tried to hand it over. A like facility in casting off from the self or alienating the limbs is illustrated in a story in the Worcester Collection of a child of three and a half years who on finding his feet stained by some new stockings observed: "Oh, mamma! these ain't my feet, these ain't the feet I had this morning". This readiness to detach the limbs shows itself still more plainly in the boy C.'s complaining when in bed and trying to wriggle into a snug position that his legs came in the way of himself. Here the legs seem to be half transformed into foreign persons; and this tendency to personify the limbs seems to be further illustrated in Laura Bridgman's pastime of spelling a word wrongly with one hand and then slapping that hand with the other.

Why, it may be asked, should a child attach this supreme importance to the trunk, when his limbs are always forcing themselves on his notice by their movements, and when he is so deeply interested in them as the parts of the body which do things? I suspect that the principal reason is that a child soon learns to connect with the trunk the recurrent and most impressive of his feelings of comfort and discomfort, such as hunger, thirst, stomachic pains and the corresponding reliefs. We know that the "vital sense" forms the sensuous basis of self-consciousness in the adult, and it is only reasonable to suppose that in the first years of life, when it fills so large a place in the consciousness, it has most to do with determining the idea of the sentient or feeling body. Afterwards the observation of maimed men and animals would confirm the idea that the trunk is the seat and essential portion of the living body. The language of others too by identifying 'body' and 'trunk' would strengthen the tendency.

About this interesting trunk-body, what is inside it, and how it works, the child speculates vastly. References to the making of bone, the work of the stomach, and so forth have to be understood somehow. It would be interesting

to get at a child's unadulterated view of his anatomy and physiology. The Worcester Collection illustrates what funny ideas a child can entertain of the mechanism of his body. A little girl between five and six thought it was the little hairs coming against the lids which made her sleepy.

At a later stage of the child's development, no doubt, when he comes to form the idea of a conscious thinking 'I,' the head will become a principal portion of the bodily self. In the evolution of the self-idea in the race, too, we find that the soul was lodged in the trunk long before it was assigned a seat in the head. As may be seen in C.'s case children are quite capable of finding their way, partly at least, to the idea that the soul has its lodgment in the head. But it is long before this thought grows clear. This may be seen in children's talk, as when a girl of four spoke of her dolly as having no sense in her *eyes*. Even when a child learns from others that we think with our brains he goes on supposing that our thoughts travel down to the mouth when we speak.

Very interesting in connexion with the first stages of development of the idea of self is the experience of the mirror. It would be absurd to expect a child when first placed before a mirror to recognise his own face. He will smile at the reflexion as early as the tenth week, though this is probably merely an expression of pleasure at the sight of a bright object. If held in the nurse's or father's arms to a glass when about six months old a baby will at once show that he recognises the image of the familiar face of the latter by turning round to the real face, whereas he does not recognise his own. He appears at first and for some months to take it for a real object, sometimes smiling to it as to a stranger and even kissing it, or, as in the case of a little girl (fifteen months old), offering it things and saying 'Ta' (sign of acceptance). In many cases curiosity prompts to an attempt to grasp the mirror-figure with the hand, to turn up the glass, or to put the hand behind it in



order to see what is really there. This is very much like the behaviour of monkeys before a mirror, as described by Darwin and others. Little by little the child gets used to the reflexion, and then by noting certain agreements between his bodily self and the image, as the movement of his hands when he points, and partly, too, by a kind of inference of analogy from the doubling of other things by the mirror, he reaches the idea that the reflexion belongs to himself. By the sixtieth week Preyer's boy had associated the name of his mother with her image, pointing to it when asked where she was. By the twenty-first month he did the same thing in the case of his own image.<sup>1</sup>

An infant will, we know, take a shadow to be a real object and try to touch it. Some children on noticing their own and other people's shadows on the wall are afraid as at something uncanny. Here, too, in time the strange phenomenon is taken as a matter of course and referred to the sun.

We are told that the phenomena of reflexions and shadows, along with those of dreams, had much to do with the development, in the early thought of the race, of the animistic conception that everything has a double nature and existence. Do children form similar ideas? We can see from the autobiography of George Sand how a clever girl, reflecting on the impressive experience of the echo, cogitates such a theory of her double existence; and we know, too, that the boy Hartley Coleridge distinguished among the 'Hartleys' a picture Hartley and a shadow Hartley. C.'s biography suggests that being photographed may appear to a child as a transmutation, if not a doubling, of the self. But much more needs to be known about these matters.

The prominence of the bodily pictorial element in the child's first idea of self is seen in the tendency to restrict

<sup>1</sup> See the very full account of the mirror experiment in Preyer's book, p. 459 *seq.*

personal identity within the limits of an unchanged bodily appearance. The child of six, with his shock of curls, refuses to believe that he is the same as the hairless baby whose photograph the mother shows him. How different, how new, a being a child feels on a Sunday morning after the extra weekly cleansing and brushing and draping. The bodily appearance is a very big slice of the content of most people's self-consciousness, and to the child it is almost everything.

But in time the conscious self, which thinks and suffers and wills, comes to be dimly discerned. I believe that a real advance towards this true self-consciousness is marked by the appropriation and use of the difficult forms of language, 'I,' 'me,' 'mine'. This will be dealt with in another essay.

Sometimes the apprehension of the existence of a hidden self distinct from the body comes as a sudden revelation, as to little George Sand. Such a swift awakening of self-consciousness is apt to be an epoch-making and memorable moment in the history of the child.

A father sends me the following notes on the development of self-consciousness: "My girl, three years old, makes an extraordinary distinction between her body and herself. Lying in bed she shut her eyes and said: 'Mother, you can't see me now'. The mother replied: 'Oh, you little goose, I can see you but you can't see me'. To which she rejoined: 'Oh, yes, I know you can see *my body*, mother, but you can't see *me*'." The same child about the same time was concerned about the reality of her own existence. One day playing with her dolls she asked her mother: "Mother, am *I* real, or only a pretend like my dolls?" Here again, it is plain, the emphasis was laid on something non-corporeal, something that animated the body, and not a mere bit of mechanism put inside it. Two years later she showed a still finer intellectual differentiation of the visible and the invisible self. Her brother

happened to ask her what they fed the bears on at the Zoo. She answered impulsively: "Dead babies and that sort of thing". On this the mother interposed: "Why, F., you don't think mothers would give their dead babies to the animals?" To this she replied: "Why not, mother? It's only their bodies. I shouldn't mind your giving mine." This contempt for the body is an excellent example of the way in which a child when he gets hold of an idea pushes it to its logical extreme. This little girl by-the-bye was she who, about the same age, took compassion on the poor autumn leaves dying on the ground, so that we may suppose her mind to have been brooding at this time on the conscious side of existence.

The mystery of self-existence has probably been a puzzle to many a thoughtful child. A lady, a well-known writer of fiction, sends me the following recollection of her early thought on this subject: "The existence of other people seemed natural: it was the 'I' that seemed so strange to me. That I should be able to perceive, to think, to cause other people to act, seemed to me quite to be expected, but the power of feeling and acting and moving about myself, under the guidance of some internal self, amazed me continually."

It is of course hard to say how exactly the child thinks about this inner self. It seems to me probable that, allowing for the great differences in reflective power, children in general, like uncivilised races, tend to materialise it, thinking of it dimly as a film-like shadow-like likeness of the visible self. The problem is complicated for the child's consciousness by religious instruction with its idea of an undying soul.

As may be seen in the recollections just quoted, this early thought about self is greatly occupied with its action on the body. Among the many things that puzzled the much-questioning little lad already frequently quoted was this: "How do my thoughts come down from my brain to

my mouth : and how does my spirit make my legs walk ? " C.'s sister when four years and ten months old wanted to know how it is we can move our arm and keep it still when we want to, while the curtain can't move except somebody moves it. The first attempts to solve the puzzle are of course materialistic, as may be seen in our little questioner's delightful notion of thoughts travelling through the body. This form of materialism, however, I find surviving in grown-ups and even in students of psychology, who are rather fond of talking about sensations travelling up the nerves to the brain.

Very curious are the directions of the first thought about the past self. The idea of personal identity, so dear to philosophers, does not appear to be fully reached at first. On the contrary, as we shall see in the case of C., the past self is divorced from the present under the image of the opposite sex in the odd expression : " when I was a little girl ". This probably illustrates the importance of the bodily appearance as a factor in the self, for C. had, I believe, been photographed when in the petticoat stage, and no doubt looked back on this person in skirts as a girl. This is borne out by the fact that another little boy when about three and a half years old asked his mother : " Was I a girl when I was small ? " and that the little questioner whom I have called our zoologist was also accustomed to say : " When I was a ' ickle dirl (girl) ". But discarded petticoats do not explain all the child's ideas about his past self. This same little zoologist would also say, " When I was a big man, " to describe the state of things long, long ago. What does this mean ? In discussing the quaint idea of senile shrinkage I have suggested that a child may think of human existence as a series of transformations from littleness to bigness, and the reverse, and here we have lighted on another apparent evidence of it. For though we are apt to call children ' old men ' we do not suggest to them that they are or have been big men.

The difficulty to the child of conceiving of his remote past, is surpassed by that of trying to understand the state of things before he was born. The true mystery of birth for the child, the mystery which fascinates and holds his mind, is that of his beginning to be. This is illustrated in C.'s question: "Where was I a hundred years ago? Where was I before I was born?" It remains a mystery for all of us, only that after a time we are wont to put it aside. The child, on the other hand, is stung, so to say, by the puzzle, his whole mind being roused to passionate questioning.

It is curious to note the differences in the attitude of children's minds towards the mystery. The small person accustomed to petting, to be made the centre of others' thought and action, may be struck with the blank in the common home life before his arrival. A lady was talking to her little girl H., aged three years, about something she had done when she was a child. H. then wanted to know what she was doing then, and was told by her mother: "Oh, you were not here at all". She seemed quite amazed at this, and said: "And what did you do without H.? Did you cry all day for her?" On being informed that this was not the case, she seemed quite unable to realise how her mother could have existed without her. There is something of the charming egoism of the child here, but there is more: there is the vague expression of the unifying integrating work of love. Lovers, one is told, are wont to think in the same way about the past before they met, and became all in all to one another. For this little girl with her strong sense of human attachment, the idea of a real life without that which gave it warmth and gladness was a contradiction.

Sometimes again, in the more metaphysical sort of child, the puzzle relates to the past existence of the outer world. We have all been perplexed by the thought of the earth and sky, and other folk existing before we were,

and going on to exist after we cease to be ; though here again, save in the case of the philosopher perhaps, we get used to the puzzle. Children may be deeply impressed with this apparent contradiction. Jean Ingelow in her interesting reminiscences thus writes of her puzzlings on this head : "I went through a world of cogitation as to whether it was really true that anything had been and lived before I was there to see it. . . . I could think there might have been some day when I was very little—as small as the most tiny pebble on the road—but not to have been at all was so very hard to believe." A little boy of five who was rather given to saying 'clever' things, was one day asked by a visitor, who thought to rebuke what she took to be his conceit : "Why, M., however did the world go round before you came into it?" M. at once replied : "Why, it *didn't* go round. It only began five years ago." Was this, as perhaps nine persons out of ten would say, merely a bit of dialectic smartness, the evasion of an awkward question by denying the assumed fact? I am disposed to think that there was more, that the virtuous intention of the visitor had chanced to discover a hidden child-thought ; for the child is naturally a Berkeleyan, in so far at least that for him the reality of things is reality for his own sense-perceptions. A world existent before he was on the spot to see it, seems to the child's intelligence a contradiction.

A child will sometimes use theological ideas as an escape from this puzzle. The myth of babies being brought down from heaven is particularly helpful. The quick young intelligence sees in this pretty idea a way of prolonging existence backwards. The same little boy that was so concerned to know what his mother had done without him, happened one day to be passing a street pump with his mother, when he stopped and observed with perfect gravity : "There are no pumps in heaven where I came from". He had evidently thought

out the legend of the God-sent baby to its logical consequences.

Children appear to have very vague ideas about time. Their minds cannot at first of course rise to the abstraction, time, or duration, or to its measured portions, as a day. They talk about the days as if they were things. Thus to-day, yesterday, and to-morrow, which, as we may see in C.'s way of talking about time, are used very vaguely for present, past and future, are spoken of as things which move. A girl of four asked: 'Where is yesterday gone to?' and 'Where will to-morrow come from?' The boy C. as well as other children, as we saw, asked where all the days go to. Such expressions may of course be figurative, a child having no other way of describing the sequence yesterday and to-day, to-day and to-morrow; yet I am disposed to think that these are examples of the child's 'concretism,' his reduction of our abstractions to living realities.<sup>1</sup>

It is equally noticeable that children have no adequate mental representations of our time-measurements. As in the case of space, so in that of time their standard is not ours: an hour, say the first morning at school, may seem an eternity to a child's consciousness. The days, the months, the years seem to fly faster and faster as we get older. On the other hand, as in the case of space-judgments, too, the child through his inability to represent time on a large scale is apt to bring the past too near the present. Mothers and young teachers would be surprised if they knew how children interpreted their first historical instruction introduced by the common phrase, 'Many years ago,' or similar expression. A child of six years when crossing the Red Sea asked to be shown Pharaoh and his hosts. This looks like the effect of a vivid imagination of

<sup>1</sup> A child quoted by P. Lombroso thought of a year as a round thing having the different festivals on it, and bringing these round in due order by its rotation (*op. cit.*, p. 49).

the scene, which even in grown people may beget an expectation of seeing it here and now. The following anecdote of a boy of five and a half years sent me by his aunt more clearly illustrates a child's idea of the historical past. "H. was beginning to have English history read to him and had got past the 'Romans' as he said. One day he noticed a locket on my watch-chain, and desired that it should be opened. It contained the hair of two babies both dead long before. He asked about them. I told him they died before I was born. 'Did father know them?' he asked. 'No, they died before *he* was born.' 'Then who knew them and when did they live?' he asked, and as I hesitated for a moment, seeking how to make the matter plain, 'Was it in the time of the Romans?' he gravely asked." The odd-looking historical perspective here was quite natural. He had to localise the babies' existence somewhere, and he could only do it conjecturally by reference to the one far-off time of which he had heard, and which presumably covered all that was before the life-time of himself and of those about him.

### *Theological Ideas.*

We may now pass to another group of children's ideas, a group already alluded to, those which have to do with the invisible world, with death and what follows this—God and heaven. Here we find an odd patchwork of thought, the patchwork-look being due to the heterogeneous sources of the child's information, his own observations of the visible world on the one hand, and the ideas supplied him by what is called religious instruction on the other. The characteristic activity of the child-mind, so far as we can disengage it, is seen in the attempt to co-ordinate the disparate and seemingly contradictory ideas into something like a coherent system.

Like the beginning of life, its termination, death, is one of the recurring puzzles of childhood. This might be



illustrated from almost any autobiographical reminiscences of childhood. Here indeed the mystery, as may be seen in C.'s case, is made the more impressive and recurrent to consciousness by the element of dread. A little girl of three and a half years asked her mother to put a great stone on her head, because she did not want to die. She was asked how a stone would prevent it, and answered with perfect childish logic: "Because I shall not grow tall if you put a great stone on my head; and people who grow tall get old and then die".

Death seems to be thought of by the unsophisticated child as the body reduced to a motionless state, devoid of breath and unable any longer to feel or think. This is the idea suggested by the sight of dead animals, which but few children, however closely shielded, can escape.

The first way of envisaging death seems to be as a temporary state like sleep, which it so closely resembles. A little boy of two and a half years, on hearing from his mother of the death of a lady friend, at once asked: "Will Mrs. P. still be dead when we go back to London?"

The knowledge of burial gives a new and terrible turn to his idea of death. He now begins to speculate much about the grave. The instinctive tendency to carry over the idea of life and sentience to the buried body is illustrated in C.'s fear lest the earth should be put over his eyes. The following observation from the Worcester Collection illustrates the same tendency. "A few days ago H. (aged four years four months) came to me and said: 'Did you know they'd taken Deacon W. to Grafton?' I. 'Yes.' H. 'Well, I s'pose it's the best thing. His folks (meaning his children) are buried there, and they wouldn't know he was dead if he was buried here.'" This reversion to savage notions of the dead in speaking of a Christian deacon has a certain grim humour. All thoughts of heaven were here forgotten in the absorbing interest in the fate of the body.

Do children when left to themselves work out a theory of another life, that of the soul away from the dead deserted body? It is of course difficult to say, all children receiving some instruction at least of a religious character respecting the future. One of the clearest approaches to spontaneous child-thought that I have met with here is supplied by the account of the Boston children. "Many children (writes Professor Stanley Hall) locate all that is good and imperfectly known in the country, and nearly a dozen volunteered the statement that good people when they die go to the country—even here from Boston." The reference to good people shows that the children are here trying to give concrete definiteness to something that has been said by another. These children had not, one suspects, received much systematic religious instruction. They had perhaps gathered in a casual way the information that good people when they die are to go to a nice place. Children pick up much from the talk of their better-instructed companions which they only half understand. In any case it is interesting to note that they placed their heaven in the country, the unknown beautiful region, where all sorts of luxuries grow. One is reminded of the idea of the happy hunting grounds to which the American Indian consigns his dead chief. It would have been interesting to examine these Boston children as to how they combined this belief in going to the country with the burial of the body in the city.

In the case of children who pick up something of the orthodox religious creed the idea of going to heaven has somehow to be grasped and put side by side with that of burial. How the child-mind behaves here it is hard to say. It is probable that there are many comfortable and stupid children who are not troubled by any appearance of contradiction. As we saw in the remark of the American child about the deacon, the child-mind may oscillate between the native idea that the man lives on in a sense

underground, and the alien idea that he has passed into heaven. Yet undoubtedly the more thoughtful kind of child does try to bring the two ideas into agreement. The boy C. attempted to do this first of all by supposing that the people who went to heaven (the good) were not buried at all; and later by postponing the going to heaven, the true entrance being that of the body by way of the tomb. Other ways of getting a consistent view of things are also hit upon. Thus a little girl of five years thought that the *head* only passed to heaven. This was no doubt a way of understanding the communication from others that the 'body' is buried. This inference is borne out by another story of a boy of four and a half who asked how much of his legs would have to be cut off when he was buried. The legs were not the 'body'. But the idea of the head passing to heaven meant more than this. It pretty certainly involved a localisation of the soul in the crown of the body, and it may possibly have been helped by pictures of cherub heads. Sometimes this process of child-thought reflects that of early human thought, as when a little boy of six said that God took the breath to heaven (*cf.* the ideas underlying *spiritus* and *πνεῦμα*).

In what precise manner children imagine the entrance into heaven to take place I do not feel certain. The legend of being borne by angels through the air probably assists here. As we have seen, children tend to think of people when they die as shrinking back to baby-dimensions so as to be carried in the angels' arms.

The idea of people going to heaven is, as we know, pushed by the little brain to its logical consequences. Animals when they die pass to another place also. A boy three years and nine months asked whether birds, insects, and so forth go to heaven where people go when they die. Yet a materialistic tendency shows itself here, especially in connexion with the observation that animals are eaten. A little American boy in his fifth year was playing

with a tadpole till it died. Immediately the other tadpoles ate it up, and the child burst out crying. His elder sister with the best of intentions tried to comfort him by saying: 'Don't cry, William, he's gone to a better place'. To which rather ill-timed assurance he retorted sceptically: 'Are his brothers and sisters' stomachs a better place?'

Coming now to ideas of supernatural beings, it is to be noted that children do not wholly depend for their conceptions of these on religious or other instruction. The liveliness of their imagination and their impulses of dread and trust push them on to a spontaneous creation of invisible beings. In C.'s haunting belief in the wolf we see a sort of survival of the tendency of the savage to people the unseen world with monsters in the shape of demons. Another little boy of rather more than two years who had received no religious instruction acquired a similar haunting dread of 'cocky,' the name he had given to the cocks and hens when in the country. He localised this evil thing in the bathroom of the house, and he attributed pains in the stomach to the malign influence of 'cocky'.<sup>1</sup> Fear created the gods according to Lucretius, and in this invention of evil beings bent on injuring him the child of a modern civilised community may reproduce the process by which man's thoughts were first troubled by the apprehension of invisible and supernatural agents.

On the other hand we find that the childish impulse to seek aid leads to a belief in a more benign sort of being. C.'s staunch belief in his fairies who could do the most wonderful things for him, and more especially his invention of the rain-god (the "Rainer"), are a clear illustration of the working of this impulse.

Even here, of course, while we can detect the play of a spontaneous impulse, we have to recognise the influence of instruction. C.'s tutelary deities, the fairies, were no doubt *suggested* by his fairy stories; even though, as in the myth

<sup>1</sup> See *Mind*, vol. xi., p. 149.

of the Rainer, we see how his active little mind proceeded to work out the hints given him into quite original shapes. This original adaptation shows itself on a large scale where something like systematic religious instruction is supplied. An intelligent child of four or five will in the laboratory of his mind turn the ideas of God and the devil to strange account. It would be interesting, if we could only get it, to have a collection of all the hideous eerie forms by which the young imagination has endeavoured to interpret the notion of the devil. His renderings of the idea of God appear to show hardly less of picturesque diversity.<sup>1</sup>

It is to be noted at the outset that for the child's intelligence the ideas introduced by religious instruction at once graft themselves on to those of fairy-lore. Mr. Spencer has somewhere ridiculed our university type of education with its juxtaposition of classical polytheism and Hebrew monotheism. One might, perhaps, with still greater reason, satirise the mixing up of fairy-story and Bible-story in the instruction of a child of five. Who can wonder that the little brain should throw together all these wondrous invisible forms, and picture God as an angry or amiable old giant, the angels as fairies and so forth? In George Sand's child-romance of *Corambé* we see how far this blending of the ideas of the two domains of the invisible world can be carried.

For the rest, the child in his almost pathetic effort to catch the meaning of this religious instruction proceeds in his characteristic matter-of-fact way by reducing the abstruse symbols to terms of familiar every-day experience. He has to understand and he can only understand by assimilating to homely terrestrial facts. Hence the undisguised materialism of the child's theology. According to Stanley Hall's

<sup>1</sup> According to Professor Earl Barnes, the Californian children seem to occupy themselves but little with the devil and hell. See his interesting paper, "Theological Life of a Californian Child," *Pedagogical Seminary*, ii., 3, p. 442 seq.

collection of observations, God was imaged by one child as a man preternaturally big—a big blue man ; by another as a huge being with limbs spread all over the sky ; by another as so immensely tall that he could stand with one foot on the ground, and touch the clouds,—strong like the giant, his prototype. He is commonly, in conformity with what is told, supposed to dwell in heaven, that is just the other side of the blue and white floor, the sky. He is so near the clouds that according to one small boy (our little friend the zoologist) these are a sort of pleasaunce, composed of hills and trees, which he has made to saunter in. But some children are inventive even in respect of God's whereabouts. He has been regarded as inhabiting one of the stars. One of Mr. Kratz's children localised him 'up in the moon,' an idea which probably owes something to observation of the man in the moon. We note, too, a tendency to approximate heaven and earth, possibly in order to account for God's frequent presence and activity here. Thus one of Mr. Kratz's children said that God was "up on the hill," and one little girl of five was in the habit of climbing an old apple tree to visit him and tell him what she wanted.

Differences of feeling, as well as differences in the mode of instruction and in intelligence, seem to reflect themselves in these ideas of the divine dwelling-place. As we have seen, the childish intelligence is apt to envisage God as a sort of grand lord with a house or mansion. Two different tendencies show themselves in the thought about this dwelling-place. On the one hand the feeling of childish respect, which led a German girl of seven to address him in the polite form, 'Ich bitte Sie,' leads to a beautifying of his house. According to some of the Bostonian children he has birds, children, and Santa Claus living with him. Others think of him as having a big park or pleasaunce with trees, flowers, as well as birds. The children are perhaps our dead people who in time will be sent back to earth. Whether the birds, that I find come in again and

again in the ideas of heaven, are dead birds, I am not sure. While however there is this half-poetical adorning of God's palace, we see also a tendency to humanise it, to make it like our familiar houses. This is quaintly illustrated in the following prayer of a girl of seven whose grandfather had just died: "Please, God, grandpapa has gone to you. Please take great care of him. Please always mind and shut the door, because he can't stand the draughts." We see the same leaning to homely conceptions in the question of a little girl of four: 'Isn't there a Mrs. God?'

While thus relegated to the sublime regions of the sky God is supposed to be doing things, and of course doing them for us, sending down rain and so forth. What seems to impress children most, especially boys, in the traditional account of God is his power of making things. He is emphatically the artificer, the demiurgos, who not only has made the world, the stars, etc., but is still kept actively employed by human needs. According to the Boston children he fabricates all sorts of things from babies to money, and the angels work for him. The boy has a great admiration for the maker, and our small zoologist when three years and ten months old, on seeing a group of working men returning from their work, asked his astonished mother: "Mamma, is these gods?" "God!" retorted his mother, "why?" "Because," he went on, "they makes houses, and churches, mamma, same as God makes moons, and people, and 'ickle dogs." Another child watching a man repairing the telegraph wires that rested on a high pole at the top of a lofty house, asked if he was God. In this way the child is apt to think of God descending to earth in order to make things. Indeed, in their prayers, children are wont to summon God as a sort of good genius to do something difficult for them. A boy of four and a half years was one day in the kitchen with his mother, and would keep taking up the knives and using them. At last his mother said: "L., you will cut your fingers, and if you

do they won't grow again". He thought for a minute and then said with a tone of deep conviction : " But God would make them grow. He made *me*, so he could mend my fingers, and if I were to cut the ends off I should say, 'God, God, come to your work,' and he would say, 'All right'."<sup>1</sup>

While this way of recognising God as the busy artificer is common, it is not universal. The child's deity, like the man's (as Feuerbach showed), is a projection of himself, and as there are lazy children, so there is a child's God who is a luxurious person sitting in a lovely arm-chair all day, and at most putting out from heaven the moon and stars at night.

This admiration of God's creative power is naturally accompanied by that of his skill. A little boy once said to his mother he would like to go to heaven to see Jesus. Asked why, he replied : " Oh ! he's a great conjurer". The child had shortly before seen some human conjuring and used this experience in a thoroughly childish fashion by envisaging in a new light the New Testament miracle-worker.

The idea of God's omniscience seems to come naturally to children. They are in the way of looking up to older folks as possessing boundless information. C.'s belief in the all-knowingness of the preacher, and his sister's belief in the all-knowingness of the policeman, show how readily the child-mind falls in with the notion.

On the other hand I have heard of the dogma of God's infinite knowledge provoking a sceptical attitude in the child-mind. This seems to be suggested in a rather rude remark of a boy of four, bored by the long Sunday dis-

<sup>1</sup> To judge from a story for the truth of which I will not vouch children will turn the devil to the same useful account. A little girl was observed to write a letter and to bury it in the ground. The contents ran something like this : " Dear Devil, please come and take aunt—soon, I cannot stand her much longer ". The burying is significant of the devil's dwelling-place.



course of his mother : " Mother, does God know when you are going to stop ? " Our astute little zoologist, when five years and seven months old, in a talk with his mother, impiously sought to tone down the doctrine of omniscience in this way : " I know a 'ickle more than Kitty, and you know a 'ickle more than me ; and God knows a 'ickle more than you, I s'pose ; then he can't know so very much after all " .

Another of the divine attributes does undoubtedly shock the childish intelligence : I mean God's omnipresence. It seems, indeed, amazing that the so-called instructor of the child should talk to him almost in the same breath about God's inhabiting heaven, and about his being everywhere present. Here, I think, we see most plainly the superiority of the child's mind to the adult's, in that it does not let contradictory ideas lie peacefully side by side, but makes them face one another. To the child, as we have seen, God lives in the sky, though he is quite capable of coming down to earth when he wishes or when he is politely asked to do so. Hence he rejects the idea of a diffused ubiquitous existence. The idea which is apt to be introduced early as a moral instrument, that God can always see the child, is especially resented by that small, sensitive, proud creature, to whom the ever-following eyes of the portrait on the wall seem a persecution. Miss Shinn, a careful American observer of children, has written strongly, yet not too strongly, on the repugnance of the child-mind to this idea of an ever-spying eye.<sup>1</sup> My observations fully confirm her conclusions here. Miss Shinn speaks of a little girl, who, on learning that she was under this constant surveillance, declared that she " would *not* be so tagged ". A little English boy of three, on being informed by his older sister that God can see and watch us while we cannot see him, thought awhile, and then in an apologetic tone said : " I'm very sorry, dear, I can't (b)elieve you ". What the sister, aged fifteen, thought of this is not recorded. An

<sup>1</sup> *Overland Monthly*, Jan., 1894, p. 12.

American boy of five, learning that God was in the room and could see even if the shutters were closed, said: "I know, it's jugglery".

When the idea is accepted odd devices are excogitated for the purpose of making it intelligible. Thus one child thought of God as a very small person who could easily pass through the keyhole. The idea of God's huge framework illustrated above is probably the result of an attempt to figure the conception of omnipresence. Curious conclusions too are sometimes drawn from the supposition. Thus a little girl of three years and nine months one day said to her mother in the abrupt childish manner: "Mr. C. (a gentleman she had known who had just died) is in this room". Her mother, naturally a good deal startled, answered: "Oh, no!" Whereupon the child resumed: "Yes, he is. You told me he is with God, and you told me God was everywhere, so as Mr. C. is with God he must be in this room." With such trenchant logic does the child's intelligence cut through the tangle of incongruous ideas which we try to pass off as methodical instruction.

It might easily be supposed that the child's readiness to pray to God is inconsistent with what has just been said. Yet I think there is no real inconsistency. Children's idea of prayer is, probably, that of sending a message to some one at a distance. The epistolary manner noticeable in many prayers seems to illustrate this.<sup>1</sup> The mysterious whispering is, I suspect, supposed in some inscrutable fashion known only to the child to transmit itself to the divine ear.

Of the child's belief in God's goodness it is needless to say much. For these little worshippers he is emphatically the friend in need who can help them out of their difficulties in a hundred ways. Our small zoologist thanked God for making "the sea, the holes with crabs in them, and the trees, the fields, and the flowers," and regretted that he did

<sup>1</sup> Cf. the story of writing a letter to the devil given above.

not follow up the making of the animals we eat by doing the cooking also. As their prayers show he is ever ready to make nice presents, from a fine day to a toy-gun, and will do them any kindness if only they ask prettily. Happy the reign of this untroubled optimism. For many children, alas, it is all too short, the colour of their life making them lose faith in all kindness, and think of God as cross and even as cruel.

One of the real difficulties of theology for the child's intelligence is the doctrine of God's eternity. Puzzled at first with the fact of his own beginning, he comes soon to be troubled with the idea of God's having had no beginning. C. showed a common trend of childish thought in asking what God was like in his younger days. The question, "Who made God?" seems to be one to which all inquiring young minds are led at a certain stage of child-thought. The metaphysical impulse of the child to follow back the chain of events *ad infinitum* finds the ever-existent unchanging God very much in the way. He wants to get behind this "always was" of God's existence, just as at an earlier stage of his development he wanted to get behind the barrier of the blue hills. This is quaintly illustrated in the reasoning of a child observed by M. Egger. Having learnt from his mother that before the world there was only God the Creator, he asked: "And before God?" The mother having replied, "Nothing," he at once interpreted her answer by saying: "No; there must have been the place (*i.e.*, the empty space) where God is". So determined is the little mind to get back to the 'before,' and to find something, if only a prepared place.

Other mysteries of which the child comes to hear find their characteristic solution in the busy little brain. A friend tells me that when a child he was much puzzled by the doctrine of the Trinity. He happened to be an only child, and so he was led to put a meaning into it by

assimilating it to the family group, in which the Holy Ghost became the mother.

I have tried to show that children seek to bring meaning, and a consistent meaning, into the jumble of communications about the unseen world to which they are apt to be treated. I agree with Miss Shinn that children about three and four are not disposed to theologise, and are for the most part simply confused by the accounts of God which they receive. Many of the less bright of these small minds may remain untroubled by the incongruities lurking in the mixture of ideas, half mythological or poetical, half theological, which is thus introduced. Such children are no worse than many adults, who have a wonderful power of entertaining contradictory ideas by keeping them safely apart in separate chambers of their brain. The intelligent thoughtful child on the other hand tries at least to reconcile and to combine in an intelligible whole. His mind has not, like that of so many adults, become habituated to the water-tight compartment arrangement, in which there is no possibility of a leakage of ideas from one group into another. Hence his puzzlings, his questionings, his brave attempts to reduce the chaos to order. I think it is about time to ask whether parents are doing wisely in thus adding to the perplexing problems of early days.

## V.

### THE LITTLE LINGUIST.

#### *Prelinguistic Babblings.*

NO part of the life of a child appeals to us more powerfully perhaps than the first use of our language. The small person's first efforts in linguistics win us by a certain graciousness, by the friendly impulse they disclose to get mentally near us, to enter into the full fruition of human intercourse. The difficulties, too, which we manage to lay upon the young learner of our tongue, and the way in which he grapples with these, lend a peculiar interest, half pathetic, half humorous, to this field of infantile activity. To the scientific observer of infancy, moreover, the noting of the stages in the acquisition of speech is of the first importance. Language is sound moulded into definite forms and so made vehicular of ideas; and we may best watch the unfoldings of childish thought by attending to the way in which the word-sculptor takes the plastic sound-material and works it into its picturesque variety of shapes.

A special biological and anthropological interest attaches to the child's first essays in the use of words. Language is that which most obviously marks off human from animal intelligence. One of the most interesting problems in the science of man's origin and early development is how he first acquired the power of using language-signs. If we proceed on the biological principle that the development of the individual represents in its main stages that of the race, we may expect to find through the study of children's

use of language hints as to how our race came by the invaluable endowment. How far it is reasonable to expect from a study of nursery linguistics a complete explanation of the process by which man became speechful, *homo articulans*, will appear later on. But an examination of these linguistics ought surely to be of some suggestive value here.

While there is this peculiar scientific interest in the first manifestations of the speech-faculty in the child, they are of a kind to lend themselves particularly well to a methodic and exact observation. Articulate sounds are sensible objects having well-defined characters which may be accurately noted and described where the requisite fineness of ear and quickness of perception are present. The difficulties are no doubt great here: but they are precisely the difficulties to sharpen the appetite of the true naturalist. Hence we need not wonder that early articulation fills a large place in the naturalist's observation of infant life. Preyer, for example, devotes one of the three sections of his well-known monograph to this subject, and gives us a careful and elaborate account of the progress of articulation and of speech up to the end of the period dealt with (first three years).

Since these studies are especially concerned with the characteristics of the child after language has been acquired I shall not enter into the history of his rudimentary speech at any great length. At the same time, since language is a realm of activity in which the child betrays valuable characteristics long after the third year, it deserves a special study in this volume.

As everybody knows, long before the child begins to speak in the conventional sense he produces sounds. These are at first cries and wanting in the definiteness of true articulate sounds. Such cries are expressive, that is, utterances of changing conditions of feeling, pain and pleasure, and are also instinctive, springing out of certain congenital

nervous arrangements by which feeling acts upon the muscular organs. This crying gradually differentiates itself into a rich variety of expressions for hunger, cold, pain, joy and so forth, of which it is safe to say that the majority of nurses and mothers have at best but a very imperfect knowledge.

These cries disclose from the first a germ of articulate sound, *vis.*, according to Preyer an approach to the vowel sounds *u* (oo) and *ü* (Engl. *a* in 'made'). This articulate element becomes better defined and more varied in the later cries, and serves in part to differentiate them one from the other. Thus a difference of shade in the *a* (in 'ah'), difficult to describe, has been observed to mark off the cry of pleasure and of pain. Along with this articulate sounds begin to appear in periods of happy contentment under the form of infantile babbling or 'la-la-ing'. Thus the child will bring out a string of *a* and other vowel sounds. In this baby-twittering the several vowel sounds of our tongue become better distinguishable, and are strung together in queer ways, as *ai-ā-au-ä*. An attempt is made by Preyer and others to give the precise order of the appearance of the several vowel sounds. It is hardly to be expected that observers would agree upon a matter so difficult to seize and to describe; and this is what we find.<sup>1</sup> After allowing, however, for differences in the reading off, it seems probable that there is a considerable diversity in the order of development in the case of different children. This applies still more to the appearance of the consonantal sounds which long before the end of the sixth month become combined with the vowels into syllabic sounds, as *pa*, *ma*, *mam*, and so forth. Thus, though the labials *b*, *p*,

<sup>1</sup> See Preyer, *op. cit.*, Cap. 20; *cf.* the account given by De la Calle, Perez, *First Three Years*, p. 248. Stanley Hall observes that the first vocalisation of the infant could hardly be classified even with the help of Bell's phonic notation or with a phonograph (*Pedagogical Seminary*, i., p. 132).

*m*, seem to come first in most cases, they may be accompanied, if not preceded, by others, as the back open sound *ch* (in Scotch 'loch'), or (according to Preyer and others) by the corresponding voiced sound, the hard *g*. Similarly, sounds as *l* and *r*, which commonly appear late, are said in some instances to occur quite early.<sup>1</sup> Attempts have been made to show that the order of sounds here corresponds with that of advancing physiological difficulty or amount of muscular effort involved. Yet apart from the fact just touched on, that the order is not uniform, it is very questionable whether the more common order obeys any such simple physiological law.

This primordial babbling is wonderfully rich and varied. According to Preyer it contains most, if not all the sounds which are afterwards used in speaking, and among these some which cause much difficulty later on. It is thus a wondrous contrivance of nature by which the child is made to rehearse months beforehand for the difficult performances of articulate speech. It is a preliminary trying of the vocal instrument throughout the whole of its register.

Though nurses are apt to fancy that in this pretty babbling the infant is talking to itself there is no reason to think that it amounts even to a rudiment of true speech. To speak is to use a sound intentionally as the sign of an idea. The babbling baby of five months cannot be supposed to be connecting all these stray sounds with ideas, if indeed it can be said to have as yet any definite ideas. The only signification which this primitive articulation can have is emotional. Undoubtedly, as we have seen, it grows out of expressive cries. Even the happy bubblings over of vowel sounds as the child lies on his back and 'crows,' may be said to be expressive of his happiness like the movements of arms and legs which accompany it. Yet it would be an exaggeration to suppose that the elaborate phonation is

<sup>1</sup> Preyer's boy first used consonants in the combinations *taku*, *gō*, (*rūū* = the French *eu*), *op. cit.*, p. 366; *cf.* Cap. 21.



merely expressive, that all the manifold and subtle changes of sound are due to obscure variations of feeling.

The true explanation seems to be that the appearance of this infantile babbling, just like that of the movements of the limbs which accompany it, is the result of changes in the nervous system. As the centres of vocalisation get developed, motor impulses begin to play on the muscles of throat, larynx, and, later on, lips, tongue, etc., and in this way a larger and larger variety of sound and sound-combination is produced. Such phonation is commonly described as impulsive. It is instinctive, that is to say, unlearned, and due to congenital nervous connexions; and at best it can only be said to express in its totality a mood or relatively permanent state of feeling.

As this impulsive articulation develops it becomes complicated by a distinctly intentional element. The child hears the sounds he produces and falls in love with them. From this moment he begins to go on babbling for the pleasure it brings. We see the germ of such a pleasure-seeking babbling in the protracted iterations of the same sound. The first reduplications and serial iterations, *a-a*, *ma-ma*, etc., may be due to physiological inertia, the mere tendency to move along any track that happens to be struck, the very same tendency which makes a prosy speaker go on repeating himself. At the same time there is without doubt in these infantile iterations a rudiment of self-imitation. That is to say, the child having produced a sound, as *na* or *am*, impulsively proceeds to repeat the performance in order to obtain a renewal of the sound-effect. This renewed impulse may be supposed further to bring with it a germ of the pleasure of iteration of sound, or assonance. The addition of a simple rhythmic character to the series of sounds is a further indication of its pleasure-seeking character. Indeed we have in this infantile 'la-la-ing' more a rudiment of song and music than of articulate speech. The rude vocal music of savages consists of a

similar rhythmic threading of meaningless sounds in which as in this infantile song changes of feeling reflect themselves. We may best describe this infantile babbling then as voice-play and as rude spontaneous singing, the utterance of a mood, indulged in for the sake of its own delight, and serving by a happy arrangement of nature as a preliminary practice in the production of articulate or linguistic sounds.

*Transition to Articulate Speech.*

Let us now seek to understand how this undesigned trying of the articulate instrument passes into true significant articulation, how this speech-protoplasm develops into the organism that we call language. And here the question at once arises: Does the child tend to utilise the sounds thus acquired as signs apart from the influence of education, that is to say, of the articulate sounds produced by others and impressed as signs upon his attention? The question is not easy to answer owing to the early development of the imitative impulse and to the constant and all-pervading influence of education in the nursery. Yet I will offer a tentative answer.

That a child when he has reached a certain stage of intelligence would be able to make use of signs quite apart from example and education is what one might expect. Any one who has noticed how a young cat, completely isolated from the influence of example, will spontaneously hit on the gesture of touching the arm of a person sitting at a meal by way of asking to be fed, cannot be surprised that children should prove themselves capable of inventing signs. We know, too, that deaf-mutes will, self-prompted, develop among themselves an elaborate system of gesture-signs, and further express their feelings and desires by sounds, which though not heard by themselves may be understood by others and so serve as effective signs of their needs and wishes. The normal child, too, in spite of

the powerful influences which go to make him adopt as signs the articulate sounds employed by others, shows a germ of unprompted and original sign-making. The earliest of such unlearnt signs are simple gesture-movements, such as stretching out the arms when the child desires to be taken by the nurse.<sup>1</sup> Nobody has suggested that these are learnt by imitation. The same is true of other familiar gesture-movements, which appear towards the end of the first year or later, as pulling your dress just as a dog does, when the child wants you to go with him, touching the chair when he wants you to sit down, or (as Darwin's child did when just over a year) taking a bit of paper and pointing to the fire by way of signifying his wish to see the paper burnt. The gesture of pointing, though no doubt commonly aided by example, is probably capable of being reached instinctively as an outgrowth from the grasping movement.

These gesture-signs, I find, play a larger part in the case of children who are backward in talking, and so are nearer the condition of the deaf-mute. Thus a lady in sending me notes on her three children remarks that the one who was particularly backward in his speech made a free use of gesture-signs. When sixteen months old he had certain *general* signs of this sort, using a sniff as a sign of flower, and a mimic kiss as a sign of living things, *i.e.*, all sorts of animals.<sup>2</sup>

Just as movements may thus be used instinctively, that is, without aid from others' example, both as expressing simple feelings and desires, and also, as in the case just mentioned, as indicating ideas, so spontaneously formed

<sup>1</sup> The nature of gesture, its relation to language proper, and its prevalence in infancy, among imbecile children, deaf-mutes, etc., are discussed by Romanes, *Mental Evolution in Man*, chap. vi.

<sup>2</sup> A charming example of pantomimic gesture on the part of a little girl in describing to her father her first bath in the sea is given by Romanes, *op. cit.*, p. 220.

sounds may be used as signs. As pointed out above the first self-prompted articulation is closely connected with feeling, and we find that in the second half-year when the preliminary practice has been gone through certain sounds take on a distinctly expressive function. Thus one little boy when eight months old habitually used the sound 'ma-ma' when miserable, and 'da-da' when pleased. Among these instinctive expressive sounds one of the most important is that indicative of hunger. I find again and again that a special sound is marked off as a mode of expression or sign of this craving. This fact will be referred to again presently.

True language-sounds significant of things grow out of this spontaneous expressive articulation. Thus the demonstrative sign *da* which accompanies the pointing, and which seems to be frequently used with slight modifications by German as well as by English children, is probably in its inception merely an interjectional expression of the faint shock of wonder produced by the appearance in the visual field of a new object. But used as a concomitant of the pointing gesture it takes on a demonstrative or indicative function, announcing the presence or arrival of an object in a particular locality or direction. A somewhat similar case is that of 'ata' or 'tata,' a sign used to denote the departure or disappearance of an object. These signs are, as Preyer shows, spontaneous and not imitative (*e.g.*, of 'there' (da), 'all gone'). This is confirmed by the fact that they vary greatly. Thus Preyer's boy used for "there" 'da,' 'nda,' 'nta,' etc., and for "all gone" 'atta,' 'f-tu,' 'tuff,' etc. Again, Tiedemann's boy used the sound 'ah-ah,' and one of Stanley Hall's children the sound 'eh,' when pointing to an object. We may conclude then that there are spontaneous vocal reactions expressive of the contrasting mental states answering to the appearance or arrival and the disappearance or departure of an impressive and interesting object, and that, further,

these reactions when recognised by others tend to become fixed as linguistic signs.<sup>1</sup>

Just as in the case of the gesture-movements, sniffing, kissing, so in that of expressive vocal sounds we may see a tendency to take on the function of true signs of ideas. One of the best illustrations of this is to be found in the invention of a word-sound for things to eat. I have pointed out that the state of hunger with its characteristic misery becomes at an early stage marked off by a distinctive expressive sign. At a later stage this or some other sound comes to be used intelligently as a means of *asking* for food. Darwin's boy employed the sound *mum* in this way; another English child used 'numby,' and yet another 'nini'; a French child observed by M. Taine made use of 'ham'. The predominance of the labial *m* shows the early formation of these quasi-linguistic signs, and suggests that they were developed out of the primary instinctive '*m*' sound.<sup>2</sup> Such sounds, coming to be understood by the nurse, tend to become fixed as modes of asking for food.

It seems but a step from the demand 'Give me food' to the pointing out or naming of things as food. And so good an observer as Darwin says that his boy used the sound 'mum' not only for conveying the demand or command 'Give me food,' but also as a substantive 'food' of wide application. He later went on to erect a rudimentary classification on the basis of this substantive, calling sugar 'shu-mum' and even breaking up this subdivision by calling liquorice "black shu-mum".<sup>3</sup> This however seems, so far as I can ascertain, to be exceptional. In most vocabularies of children of two or three no generic term for food is found,

<sup>1</sup> See Preyer, *op. cit.*, pp. 353, 390, 391.

<sup>2</sup> See the quotation from Lieber, in Taine's *On Intelligence*, part ii., book iv., chap. i. The sign for 'I want to eat' is in some cases formed by a generalising process out of a sound supplied by another, as the name of a particular edible. See the example given by Preyer, *op. cit.*, p. 362.

<sup>3</sup> See *Mind*, vol. ii., p. 293.

though names for particular kinds of food, *e.g.*, milk, bread, are in use. This agrees with the general order of development of thought-signs, the names of easily distinguished species appearing in the case of the individual as in that of the race before those of comprehensive and 'abstract' genera such as 'food'. It is probable, therefore, that these early signs for food are but imperfectly developed into true thought-symbols or names. They retain much of their primordial character as expressions of desire and possibly of the volitional state answering to a command. This is borne out by the fact that the child spoken of by Taine used the sound 'tem' as a sort of general imperative for 'give!' 'take!' 'look!' etc.<sup>1</sup>

Another early example of an emotional expression passing into a germinal sign is that called forth at the sight of moving creatures. This acts as a strong stimulus to the baby brain, and vigorous muscular reactions, vocal and other, are wont to appear. One little boy of twelve and three-quarter months usually expressed his excitement by the sound "Dō-boo-boo," which was used regularly for about ten days on the appearance of a dog, a horse, a bird, and so forth. Here we have a protoplasmic condition of the lingual organism which we call a name, a condition destined never to pass into another and higher. Sometimes, however, these explosives at the sight of animal life grow into comparatively fixed signs of recognition.

In this spontaneous invention of quasi-linguistic sounds imitation plays a considerable part. It is evident, indeed, that gestures are largely imitative. Thus the sniff and the mimic kiss referred to just now are plainly imitations of movements. The pointing gesture, too, may be said to be a kind of imitation of the reaching and appropriating movement of the arm. The sound 'do-boo-boo' used on seeing an animal was probably imitative. According to Preyer the sounds called forth by the sight of moving objects,

<sup>1</sup> See *Mind*, vol. ii., p. 255.

*e.g.*, rolling balls and wheels, are imitative.<sup>1</sup> Whether the signs of hunger, 'mum,' 'numby,' are due to modifications of the movements carried out in sucking, seems to be more problematic.<sup>2</sup>

In certain cases imitation is the one sufficient source of the sound. In what are called onomatopoeic sounds the child seeks to mimic some natural sound, and such imitation is capable of becoming a fruitful source of original linguistic invention. A boy between nine and ten months imitated the sound of young roosters by drawing in his breath, and this noise became for a time a kind of name for any feathered creature, including small birds. More commonly such onomatopoeic sounds come to be distinctive recognition-signs of particular classes of animals, such as 'oua-oua' or 'bow-wow' for the dog, 'moo-moo' for the cow, 'ouack-ouack' or 'kuack' for the duck, and so forth.

It may, of course, be said that these mimic sounds are in part learnt from the traditional vocabulary of the nursery, in which the nurse takes good care to instruct the child. But it is to be remembered that the traditional nursery language itself is largely an adoption of children's own sounds. There is, moreover, ample independent evidence to show that children are zealous and indefatigable imitators of the sounds they hear as of the movements they see. Towards the end of the first six months and during the second half-year a child is apt to imitate eagerly any sound you choose to produce before him. In the case of Preyer's boy this impulse to repeat the sounds he heard developed into a kind of echoing mania. The acquisition of others' language plainly depends on the existence and the vigour of this mimetic impulse. And this same impulse leads the child beyond the servile adoption of our conventional

<sup>1</sup> *Op. cit.*, p. 358.

<sup>2</sup> A fact that appears to tell against imitation here is that one little boy of seventeen months used the sound 'did'n' for anything to eat.

sounds to the invention of new or onomatopoeic sounds. Thus one little child discovered the pretty sound 'tin-tin' as a name for the bell. Another child, a girl, quite unprompted, used a chirping sound for a bird, and a curious clicking noise on seeing the picture of a horse (no doubt in imitation of the sound of a horse's hoofs); while a little boy used a faint whistle to indicate a bird, and the sound 'click-click' to denote a horse. In some cases a grown-up person's imitation of a sound is imitated. Thus a child of about two used the sound 'afta' as a name for drinking, and also for drinking-vessel, "in imitation of the sound of sucking in air which the nurse used to make when *pretending to drink*".<sup>1</sup>

In these two sources of original child-language, expression of states of feeling, desire, etc., and imitation, we have the two commonly assigned origins of human language. Into the difficult question how man first came to the use of language-sounds I do not propose to enter here. Whatever view may be taken with respect to the first beginnings of human speech, there seems little doubt that both expressive cries and imitations of natural sounds have had their place. To this extent, then, we may say that there is a parallelism between the early evolution of language in the case of the individual and in that of the race. Not only so, it may be said that our study of these tentatives of the child in language-formation tends to confirm the conclusions of philology and anthropology that the current of human speech did probably originate, in main part at least, by way of these two tributaries.<sup>2</sup>

<sup>1</sup> Quoted by Romanes, *Mental Evolution in Man*, p. 143.

<sup>2</sup> The concerted cries during co-operative work to which Noirée ascribes the origin of language-sounds would seem, while having a special physiological cause as concomitant and probably auxiliary motor processes, to be analogous at least to emotional cries, in so far as they spring out of a peculiar condition of feeling, that of effort. On the other hand, as *concerte* they came under the head of imitative movements. So far as I can learn the nursery supplies no analogies to these utterances.



While vocal sounds which are clearly traceable to emotional expressions or to imitations form the staple of the normal child's inventions they do not exhaust them. Some of these early self-prompted linguistic sounds cannot be readily explained. I find, for example, that children are apt to invent names for their nurses and sometimes for themselves which, so far as I can ascertain, bear no discoverable resemblance to the sounds used by others. Thus the same little girl that invented 'numby' for food and 'afta' for drinking called her nurse 'Lee' though no one else called her by any other name than 'nurse'. It is difficult to suppose that the child was transforming the sound 'nurse' in this case. Preyer's boy called his nurse, whom others addressed as Marie, 'Wolá,' which Preyer explains rather forcedly as deriving by inversion from the frequently heard 'Ja wohl!' A lady friend informs me that her little boy when thirteen months old called himself 'Bla-a,' though he was always addressed by others as Jeffrey, and that he stuck to 'Bla-a' for six months.<sup>1</sup> A germ of imitation is doubtless recognisable here in the preservation of the syllabic form or structure (that of monosyllable or dissyllable). Yet the amount of transformation is, to say the least, surprising in children, who show themselves capable of fairly close imitation. Possibly a child's ear notes analogies of sound which escape our more sophisticated organ. However this be, the fact of such origination of names (other than those clearly onomatopoetic) is noteworthy.

Lastly a reference may be made to the fact that children have shown themselves capable of inventing the rudiments of a simple kind of language. Professor Horatio Hale of America has made a special study of these spontaneous child-languages. One case is that of twin American boys

<sup>1</sup> His brother when one year old called his nurse, whose real name was Maud, Bur, which was probably a rough rendering of 'nurse'.

who when the talking age came employed not the English sounds that they heard others speak but a language of their own. Another, and in some ways more remarkable case, is that of a little girl who at the age of two was backward in speaking, only using the names 'papa' and 'mamma,' and who, nevertheless, at that age, and in the first instance without any stimulus or aid from a companion, proceeded to invent a vocabulary and even simple sentence-forms of her own, which she subsequently prevailed on an elder brother to use with her. The vocables struck out, though suggesting some slight aural acquaintance with French—which, however, was never spoken in her home—are apparently quite arbitrary and not susceptible of explanation by imitation.<sup>1</sup>

I think the facts here brought together testify to the originality of the child in the field of linguistics. It may be said that in none of these cases is the effect of education wholly absent. A child, as we all know, is taught the names of objects and actions long before he can articulate. Thus Darwin's boy knew the name of his nurse five months before he invented the vocable 'mum'. It is obvious indeed that wherever children are subjected to normal training their sign-making impulse is stimulated by the example of others. At the same time the facts here given show that the working of this impulse may, in a certain number of children at least, strike out original lines of its own independently of the direct action of example and education. What is wanted now is to experiment carefully with an intelligent child, encouraging him to make signs by patient attention and ready understanding, but at the same time carefully abstaining from giving the lead or even taking up and adopting the first utterances so as to bring in the influence of imitation. I think there is little doubt that a child so situated might develop the rudiments

<sup>1</sup> For a summary of Professor Hale's researches see Romanes, *Mental Evolution in Man*, p. 138 ff.

of a vocal language. The experiment would be difficult to carry out, as it would mean the depriving of the child for a time of the advantages of education.<sup>1</sup>

*Beginnings of Linguistic Imitation.*

The learning of the mother-tongue is one of the most instructive and, one may add, the most entertaining chapters in the history of the child's education. The brave efforts to understand and follow, the characteristic and quaint errors that often result, the frequent outbursts of originality in bold attempts to enrich our vocabulary and our linguistic forms—all this will repay the most serious study, while it will provide ample amusement.

As pointed out above the learning of the mother-tongue is essentially a kind of imitation. The process is roughly as follows. The child hears a particular sound used by another, and gradually associates it with the object, the occurrence, the situation, along with which it again and again presents itself. When this stage is reached he can understand the word-sound as used by another though he cannot as yet use it. Later, by a considerable interval, he learns to connect the particular sound with the appropriate vocal action required for its production. As soon as this connexion is formed his sign-making impulse imitatively appropriates it by repeating it in circumstances similar to those in which he has heard others employ it.

The imitation of others' articulate sounds begins, as already remarked, very early and long before the sign-making impulse appropriates them as true words. The

<sup>1</sup> Of course, as Max Müller says (*The Science of Language*, i., p. 481 f.), the facts ascertained do not prove that 'infants left to themselves would invent a language'. The influence of example, the appeal to the imitative impulse, has been at work before the inventions appear. Yet they do, I think, show that they have the sign-making instinct, and might develop this to some extent even were the educative influence of others' language removed.

impulse to imitate others' movements seems first to come into play about the end of the fourth month; and traces of imitative movements of the mouth in articulation are said to have been observed in certain cases about this time. But it is only in the second half-year that the imitation of sounds becomes clearly marked. At first this imitation is rather of tone, rise and fall of voice, and apportioning of stress or accent than of articulate quality; but gradually the imitation takes on a more definite and complete character.<sup>1</sup>

Towards the end of the year, in favourable cases, true linguistic imitation commences. That is to say, word-sounds gathered from others are used as such. Thus, a boy of ten months would correctly name his mother, 'Mamma,' his aunt, 'Addy' (Aunty), and a person called Maggie, 'Azzie'.<sup>2</sup> As already suggested, this imitative reproduction of others' words synchronises, roughly at least, with the first onomatopoeitic imitation of natural sounds.

### *Transformations of our Words.*

As is well known the first tentatives in the use of the common speech-forms are very rough. The child in reproducing transforms, and these transformations are often curious and sufficiently puzzling.

The most obvious thing about these first infantile renderings of the adult's language is that they are a simplification. This applies to all words alike. Monosyllables if involving a complex mass of sound are usually reduced, as when 'dance' is shortened to 'da'. This clearly illustrates the difficulty of certain sound-combinations, a point to be touched on presently. More striking is the habitual reduction of dissyllables and polysyllables.

<sup>1</sup> Preyer's boy gave the first distinct imitative response to articulate sound in the eleventh month. This is, so far as I can ascertain, behind the average attainment.

<sup>2</sup> Tracy, *The Psychology of Childhood*, p. 71.

Here we note that the child concentrates his effort on the reproduction of a part only of the syllabic series, which part he may of course give but very imperfectly. The shortening tends to go to the length of reducing to a monosyllable. Thus 'biscuit' becomes 'bik,' 'Constance' 'tun,' 'candle' 'ka,' 'bread and butter' 'bup' or 'bū'. Polysyllables, though occasionally cut down to monosyllables, as when 'hippopotamus' became 'pots,' are more frequently reduced to dissyllables, as when 'periwinkle' was shortened to 'pinkle'. Handkerchief is a trying word for the English child, and for obvious reasons has to be learnt. It was reduced by the eldest child of a family to 'hankish,' by the two next to 'hamfisch' and by the last two to 'hanky'. The little girl M. also reduced the last two syllables to 'fish,' making the sound 'hanfish'.

There seems to be no simple law governing these reductions of verbal masses. The accentuated syllable, by exciting most attention, is commonly the one reproduced, as when 'nasturtium' became 'turtium'.<sup>1</sup> In the case of long words the position of a syllable at the beginning or at the end of the word seems to give an advantage in this competition of sounds, the former by impressing the sound as the first heard (compare the way in which we note and remember the initial sound of a name),<sup>2</sup> the latter by impressing it as the last heard, and therefore best retained. The unequal articulatory facility of the several sound-combinations making up the word may also have an influence on this unconscious selection. I think it not unlikely, too, that germs of a kind of æsthetic preference

<sup>1</sup> In the reduction of 'Constance' to 'tun' the same thing is seen, for this child uniformly turned *k*'s into *t*'s. Cf. Preyer, *op. cit.*, p. 397.

<sup>2</sup> It has been pointed out to me by Dr. Postgate that the secondary stress on the first syllable of English words over four syllables (and some four-syllabled words) may assist in impressing the first syllable.

for certain sounds as new, striking or fine, may co-operate here.<sup>1</sup>

Such simplification of words is from the first opposed, and tends in time to be counteracted, by the growth of a feeling for their general form as determined by the number of syllables, as well as the distribution of stress and any accompanying alterations of tone or pitch. The infant's first imitations of the sounds 'good-bye,' 'all gone,' and so forth, by couples which preserve hardly anything of the articulatory character, though they indicate the syllabic form, position of stress, and rising and falling inflection, illustrate the early development of this feeling. Hence we find in general an attempt to reproduce the number of syllables, and also to give the proper distribution of stress. Thus 'biscuit' becomes 'bítchic,' 'cellar' 'sítoo,' 'umbrella' 'nobélla,' 'elephant' 'étteno,' or (by a German child) 'ewebón,' 'kangaroo' 'kógglegoo,' 'hippopotamus' 'ippenpótany,' and so forth.<sup>2</sup>

As suggested above there goes from the first with the cutting down of the syllabic series a considerable alteration of the single constituent sounds. The vowel sounds are rarely omitted; yet they may be greatly modified, and these modifications occur regularly enough to suggest that the child finds certain nuances of vowel sounds comparatively hard to reproduce. Thus the short *æ* in hat, and the long *ī* (ai), seem to be acquired only after considerable practice.<sup>3</sup> But it is among the consonants that most

<sup>1</sup> Recent psychological experiments show that similar influences are at work when a person attempts to repeat a long series of verbal sounds, say ten or twelve nonsense syllables. Initial or final position or accent may favour the reproduction of a member of such a series.

<sup>2</sup> Here again we see a similarity between a child's repetition of a name heard, and an adult's attempt to repeat a long series of syllabic sounds. In the latter case also there is a general tendency to preserve the length and rhythmic form of the whole series.

<sup>3</sup> With the diphthong or glide *ī* may be taken *oi*, which was first mastered by the child M. at the age of two years three months.

trouble arises. Many of these, as the sibilants or 'hisses,' *s*, *sh*, the various *l* and *r* sounds, the dentals, the "point-teeth-open" *th* and *dh* (in 'thin,' 'this'), the back or guttural 'stops,' *i.e.*, *k* and hard *g*, and others as *j* or soft *g* (as in 'James,' 'gem'), appear, often at least, to cause difficulty at the beginning of the speech period. With these must be reckoned such combinations as *st*, *str*.

In many cases the difficult sounds are merely dropped. Thus 'poor' may become 'poo,' 'look' 'ook,' 'Schulter' (German) 'Ulter'. In the case of awkward combinations this dropping is apt to be confined to the difficult sound, provided, that is to say, the other is manageable alone. Thus 'dance' becomes 'dan,' 'trocken' (German) becomes 'tokko'. More particularly *s* and *sh* are apt to be omitted before other consonants. Thus 'stair' becomes 'tair,' 'sneeze' 'neeze,' 'schneiden' (German) 'neida,' and so forth.

Along with such lame omissions we have the more vigorous procedure of substitutions. In certain cases there seems little if any kinship between the sounds or the articulatory actions by which they are produced. At the early stage more particularly almost any manageable sound seems to do duty as substitute. The early-acquired labials, including the labio-dental *f*, come in as serviceable 'hacks' at this stage. What we call lisping is indeed exemplified in this class of infantile substitutions. Children have been observed to say 'fank' for 'thank' and 'mouf' for 'mouth,' 'feepy' for 'sleepy,' 'poofie' for 'pussy,' 'wiver' for 'river,' 'Bampe' for 'Lampe' (German). The dentals, too, *d* and *t*, are turned to all kinds of vicarious service. Thus we find 'ribbon' rendered by 'dib,' 'gum' by 'dam,' 'Greete' (German) by 'Deete,' 'Gummi' (German) by 'Dummi,' 'cut' by 'tut,' and 'klopfen' (German) by 'topfen'. Similarly 'gee-gee' (horse), which oddly enough was first rendered by the child M. as 'dee-gee,' is altered to 'dee-dee'. I find too that new sounds are apt to be put to this

miscellaneous use. Thus one child after learning the aspirate (*h*) at two years not only brought it out with great emphasis in its proper place but began to use it as a substitute for other and unmanageable sounds. Thus he would say, 'hie down on hofa' for 'lie down on sofa'. The aspirate is further used in place of *sh*, as when 'shake' was rendered by 'hate,' and of *st*, as when Preyer's boy called 'Stern' 'Hern'. In other cases we see that the little linguist is trying to get as near as possible to the sound, and such approximations are an interesting sign of progress. Thus in one case 'chatterbox' was rendered by 'jabberwock,' in another case 'dress' by 'desh,' in another (Preyer's boy), 'Tisch' (German) by 'Tiss'.<sup>1</sup>

Besides omissions and substitution of sounds, occasional insertions are said to occur. According to one set of observations *r* may be inserted after the broad *a*, as when 'pocket' was rendered by 'barket'. A cockney is apt to do the same, as when he talks of having -a 'barth' (bath). Yet this observation requires to be verified.

These alterations of articulate sound by the child remind one of the changes which the languages of communities undergo. We know, indeed, that these changes are due to imperfect imitation by succeeding generations of learners.<sup>2</sup> Hence we need not be surprised to find now and again analogies between these nursery transformations and those of words in the development of languages. In reproducing the sounds which he hears a child often illustrates a law of adult phonetic change. Thus changes within the same class of sounds, as the frequent alteration of 'this' into 'dis,' clearly correspond with those modifications recognised in Grimm's Law. So, too, the common substitution of a dental for a guttural has its parallel in the changes of racial

<sup>1</sup> I find according to the notes sent me that the sounds *s* and *sh* develop unequally in the cases of different children. Some acquire *s*, others *sh* before the other.

<sup>2</sup> See Sweet, *History of English Sounds*, p. 15.



language.<sup>1</sup> Nobody again can note the transformation of *n* into *m* before *f* in the form 'hamfish' for 'handkerchief' without thinking of the Greek change of *σνν* into *σνμ* before *β*, and like changes. Philologists may probably find many other parallels. One of them tells me that his little girl, on rendering *sh* by the guttural *h*, reproduced a change in Spanish pronunciation. M. Egger compares a child's rendering of '*trop*' (French) by '*crop*' with the transformation of the Latin '*tremere*' into '*craindre*'.

I have assumed here that children's defective reproduction of our verbal sounds is the result of inability to produce certain sounds and not due to the want of a discrimination of the sounds by the ear. This may seem strange in the light of Preyer's statement that the earlier impulsive babbling includes most, if not all, of the sounds required later on for articulation. This may turn out to be an exaggeration, yet there is no doubt, I think, that certain sounds, including some as the initial *l* which are common in the earlier babbling stage, are not produced at the beginning of the articulatory period. As the avoidance of these occurs in all children alike it seems reasonable to infer that they involve difficult muscular combinations in the articulatory organ. At the same time it seems going too far to say, as Schultze does, that the order of acquisition of sounds corresponds with the degree of difficulty. The very variability of this order in the case of different children shows that there is no such simple correspondence as this.<sup>2</sup>

The explanation of those early omissions and alterations is probably a rather complex matter. To begin with, the speech-organs of a child may lose special aptitudes by the development of other and opposed aptitudes. A friend of mine, a physiologist, tells me that his little boy who said 'ma-ma' (but not 'da-da') at ten months lost at the age of

<sup>1</sup> See Sievers, *Phonetik*, p. 230.

<sup>2</sup> Cf. Pollock, *Mind*, vi., p. 436, and Preyer, *op. cit.*, p. 434.

nineteen months the use of *m*, for which he regularly substituted *b*. He suggests that the nasal sound *m*, though easy for a child in the sucking stage and accustomed to close the lips, may become difficult later on through the acquisition of open sounds. It is worth considering whether this principle does not apply to other inabilities. This, however, is a question for the science of phonetics.

We must remember, further, that it is one thing to carry out an articulatory movement as a child of nine months carries it out, 'impulsively,' through some congenitally arranged mode of exciting the proper motor centre, another thing to carry it out volitionally, *i.e.*, in order to produce a desired result. This last means that the sound-effect of the movement has been learned, that the image or representation of it has been brought into definite connexion with a particular impulse, *viz.*, that of carrying out the required movement: and this is now known to depend on the formation of some definite neural connexion between the auditory and the motor regions of the speech-centre. This process is clearly more complex than the first instinctive utterance, and may be furthered or hindered by various conditions. Thus a child's own spontaneous babblings may not have sufficed to impress a particular sound on the memory; in which case his acquisition of it will be favoured or otherwise by the frequency with which it is produced by others in his hearing. It is probable that differences in the range and accuracy of production of sounds by nurse and mother tell from the first. The differences observable in the order of acquisition of sounds among children may be in part due to this, and not merely to differences in the speech-organ. It is probable, too, that children's attention may be especially called to certain sounds or sound-groups, either because of a preferential liking for the sounds themselves, or because of a special need of them as useful names. M.'s mother assures me that the child seemed to dislike particular sounds as *j*, which she could and did occasion-

ally pronounce, though she was given to altering them.<sup>1</sup> Another lady writes that her boy at the age of twenty-two months surprised her by suddenly bringing out the combination 'scissors'. He had just begun to use scissors in cutting up paper, and so had acquired a practical interest in this sound-mass.

We may now pass to another of the commonly recognised defects of early articulation, *viz.*, the transposition of sounds or metathesis. Sometimes it is two contiguous sounds which are transposed, as when 'star' is rendered by 'tsar' and 'spoon' by 'pspoon'. Here the motive of the change is evidently to facilitate the combination. We have a parallel to this in the use of 'aks' (ax) for 'ask,' a transposition which was not long since common enough in the West of England.<sup>2</sup> In other transpositions sounds are shifted further from their place. Preyer quotes a case in which there was a dislocation of vowel sounds, *viz.*, in the transformation of 'bite' (German) into 'beti'.<sup>3</sup> Here there seems to be no question of avoiding a difficult combination. Other examples are the following: 'hoogshur' for 'sugar' (one of the first noticed at the age of two); 'mungar' for 'grandmamma,' 'punga' for 'grandpapa,' and 'natis' for 'nasty' (boy between eighteen and twenty-four months); and 'boofitul' for 'beautiful'. Here again we have an analogy to defective speech in adults. When a man is very tired he is liable to precisely similar inversions of order. The explanation seems to be that the right group of sounds may present itself to the speaker's consciousness without any clear apprehension of their temporal order. Perhaps quasi-æsthetic preferences play a part here too. The child M.

<sup>1</sup> The same child, capriciously as it might look, would sometimes avoid *y*, as in saying 'esh' for 'yes,' though she regularly used this sound as a substitute for *l*, saying 'yook' for 'look,' and so on.

<sup>2</sup> See Sweet, *History of English Sounds*, p. 33; *cf.* also the change of 'frith' to 'firth'.

<sup>3</sup> *Ob. cit.*, p. 397.

seems to have preferred the sequence *m-n* to *n-m*, saying 'jaymen' for 'geranium', 'burman' for 'laburnum'.

Another interesting feature in this early articulation is the impulse to double sounds, to get a kind of effect of assurance or of rhyme by a repetition of sound or sound-group. The first and simplest form of this is where a whole sound-mass or syllable is iterated, as in the familiar 'ba-ba,' 'gee-gee' 'ni-ni' (for nice). Some children frequently turn monosyllables into reduplications, making book 'boom-boom' and so forth. It is, however, in attempting disyllables that the reduplication is most common. Thus 'naughty' becomes 'na-na,' 'faster' 'fa-fa,' 'Julia' 'dum-dum,' and so forth, where the repeated syllable displaces the second original syllable and so serves to retain something of the original word-form. In some cases the second and unaccented syllable is selected for reduplication, as in the instance quoted by Perez, 'peau-peau' for 'chapeau'. Such reduplications are sometimes aided by kinship of sound, as when the little girl M. changed 'purple' into its primitive form 'purpur'.

These early reduplications are clearly a continuation of the repetitions observable in the earlier babbling, and grow out of the same motive, the impulse to go on doing a thing, and the pleasure of repetition and self-imitation. As is well known, these reduplications have their parallel in many of the names used by savage tribes.<sup>1</sup>

In addition to these palpable reduplications of sound-masses we have repetitions of single sounds, the repeated sound being substituted for another and foreign one. This answers to what is called in phonetics 'assimilations'.<sup>2</sup> In the majority of cases the assimilation is 'progressive,' the change being carried out by a preceding on a

<sup>1</sup> See Tylor, *Primitive Culture*, i., 198. On the taking up of baby reduplications into language see the same work, i., 204. Cf. the same writer's *Anthropology*, p. 129.

<sup>2</sup> See above, p. 137; cf. Sievers, *Phonetik*, p. 236.

succeeding sound. Examples are 'Kikie' for 'Kitty,' and 'purpur' for 'purple'. This last transformation, though it was made by the little daughter of a distinguished philologist, was quite innocent of classical influence, and was clearly motivated by the childish love of reduplication of sound. In many cases the substitution of an easy for a difficult sound seems to be determined in part by assimilation, as when 'another' was rendered by 'annunner,' 'gateau' (French) by 'ca-co'. The assimilation seems, too, sometimes to work "regressively," as when 'thick' becomes 'kick,' 'Bonnie Dundee' 'Bun-dun,' and 'tortue' (French) 'tu-tu,' in which two last reduplication is secured approximately or completely by change of vowel.<sup>1</sup> There seem also to be cases of what may be called partial assimilation, that is, a tendency to transform a sound into one of the same class as the first. "If (writes a mother of her boy) a word began with a labial he generally concluded it with a labial, making 'bird,' for example, 'bom'." But these cases are not, perhaps, perfectly clear examples of assimilation.

Along with the tendency to reduplicate syllabic masses, we see a disposition to use habitually certain favourite syllables as terminations, more particularly the pet ending 'ie'. Thus 'sugar' becomes 'sugie,' 'picture' 'pickie,' and so forth. One child was so much in love with this syllable as to prefer it even to the common repetition of sound in onomatopoeitic imitation, naming the hen not 'tuck-tuck' as one might expect, but 'tuckie'.

What strikes one in these early modifications of our verbal sounds by the child is the care for metrical qualities and the comparative disregard for articulatory characteristics. The number of syllabic sounds, the distribution of stress, as well as the rise and fall of vocal pitch, are the first things

<sup>1</sup> Dr. Postgate suggests that the current terms 'progressive' and 'regressive' would be better rendered by 'retrospective' and 'prospective'.

to be attended to, and these are, on the whole, carefully rendered when the constituent sounds are changed into other and often very unlike ones, and the order of the sounds is reversed. Again, the comparative fidelity in rendering the vowel sounds illustrates the prominence of the metrical or musical quality in childish speech. The love of reduplication, of the effect of assonance and rhyme, illustrates the same point. This may be seen in some of the more playful sayings of the child M., as 'Babba hiding, Ice (Alice) spiding (spying)').

As I have dwelt at some length on the defective articulation of children, I should like to say that their early performances, so far from being a discredit to them, are very much to their credit. I, at least, have often been struck with the sudden bringing forth without any preparatory audible trial of difficult combinations, and with a wonderful degree of accuracy. A child can often articulate better than he is wont to do. The little girl M., when one year six months, being asked teasingly to say 'mudder,' said with a laugh 'mother,' quite correctly—but only on this one occasion. The precision which a child, even in the second year, will often give to our vocables is quite surprising, and reminds me of the admirable exactness which, as I have observed, other strangers to our language, and more especially perhaps Russians, introduce into their articulation, putting our own loose treatment of our language to the blush. This precision, acquired as it would seem without any tentative practice, points, I suspect, to a good deal of silent rehearsal, nascent groupings of muscular actions which are not carried far enough to produce sound.

The gradual development of the child's articulatory powers, as indicated partly by the precision of the sounds formed, partly by their differentiation and multiplication, is a matter of great interest. At the beginning, when he is able to reproduce only a small portion of a vocable, there is of course but little differentiation. Thus it has

been remarked by more than one observer, that one and the same sound (so far at least as our ears can judge) will represent different lingual signs, 'ba' standing in the case of one child for both 'basket' and 'sheep' ('ba lamb'), and 'bo' for 'box' and 'bottle'. Little by little the sound grows differentiated into a more definite and perfect form, and it is curious to note the process of gradual evolution by which the first rude attempt at articulate form gets improved and refined. Thus, writes a mother, "at eighteen to twenty months 'milk' was 'gink,' at twenty-one months it was 'ming,' and soon after two years it was a sound between 'mik' and 'milk'." The same child in learning to say 'lion' went through the stages 'ün' (one year eight months), 'ion' (two years), and 'lion' (two years and eight months). The little girl M., in learning the word 'breakfast,' advanced by the stages 'bepper,' 'beffert,' 'beffust'. In an example given by Preyer, 'grosspapa' (grandpapa) began as 'opapa,' this passed into 'gropapa,' and this again into 'grosspapa'. In another case given by Schultze the word 'wasser' (pronounced 'vasser') went through the following stages: (1) 'vavaff,' (2) 'fafaff,' (3) 'vaffaff,' (4) 'vasse,' and (5) 'vasser'. In this last we have an interesting illustration of a struggle between the imitative impulse to reproduce the exact sound and the impulse to reduplicate or repeat the sound, this last being very apparent in the introduction of the second *v* and the *ff* in the first stage, and in the substitution of the *f*'s for *v*'s under the influence of the dominant final sound in the second stage. The student of the early stages of language growth might, one imagines, find many suggestive parallels in these developmental changes in children's articulation.

The rapidity of articulatory progress might be measured by a careful noting of the increase in the number of vocables mastered from month to month. Although Preyer and others have given lists of vocables used at particular ages,

and parents have sent me lists, I have met with no methodical record of the gradual extension of the articulate field. It is obvious that any observations under this head, save in the very early stages, can only be very rough. No observer of a talkative child, however attentive, can make sure of all the word-sounds used. It is to be noted, too, as we have seen above, that a child will sometimes show that he can master a sound and will even make a temporary use of it, without retaining it as a part of the permanent linguistic stock.<sup>1</sup>

*Logical Side of Children's Language.*

It is now time to pass from the mechanical to the logical side of this early child-language, to the meanings which the small linguist gives to his articulate sounds and the ways in which he modifies these meanings. The growth of a child's speech means a concurrent progress in the mastery of word-forms and in the acquisition of ideas. In this each of the two factors aids the other, the advance of ideas pushing the child to new uses of sounds, and the growing facility in word-formation reacting powerfully on the ideas, giving them definiteness of outline and fixity of structure. I shall not attempt here to give a complete account of the process, but content myself with touching on one or two of its more interesting aspects.

A child acquires the proper use or application of a word by associating the sound heard with the object, situation or action in connexion with which others are observed to use

<sup>1</sup> As samples of the observations the following may be taken. A friend tells me his boy when one year old used just 50 vocables. The performances vary greatly. One American girl of twenty-two months had 69, whereas another about the same age had 136, just twice the number. A German girl eighteen months old is said by Preyer to have used 119 words, and to have raised this to 435 in the next six months. The composition of these early vocabularies will occupy us presently.



it. But the first imitation of words does not show that the little mind has seized their full and precise meaning. A clear and exact apprehension of meaning comes but slowly, and only as the result of many hard thought-processes, comparisons and discriminations.

In these first attempts to use our speech, the child's mind is innocent of grammatical distinctions. These arise out of the particular uses of words in sentence-structure, and of this structure the child has as yet no inkling. If, then, following a common practice, I speak of a child of twelve or fifteen months as *naming* an object, the reader must not suppose that I am ascribing to the baby-mind a clear grasp of the function of what grammarians call nouns (substantives). All that is implied in this way of speaking, is that the infant's first words are used mainly as recognition-signs. There is from the first, I conceive, even in the gesture of pointing and saying 'da!' a germ of this naming process.

The progress of this rude naming or articulate recognition is very interesting. The names first learnt are either those of individuals, what we call proper names, as 'mamma,' 'nurse,' or those which, like 'bath,' 'bow-wow,' are at first applied to one particular object. It is often supposed that a child uses these as true singular names, recognising individual objects as such. But this is pretty certainly an error. He cannot note differences well enough or grasp a sufficient number of differential marks to know an individual as such, and he will, as occasion arises, quite spontaneously extend his names to other things which happen to have some interesting and notable points in common with the first. Thus 'bow-wow,' though first applied to one particular dog, is, as we know, at once extended to other dogs, pictures of dogs, and not infrequently other things as well. If then we speak of the child as generalising or widening the application of his terms, we must not be taken to mean that he goes through a process

of comparing things which he perceives to be distinct, and discovering a likeness in these, but that he merely assimilates or recognises something like that which he has seen before without troubling to note the differences.

This extension of names or generalising process proceeds primarily and mainly by the feeling for the likenesses or the common aspects of things, though as we shall see presently their connexions of time and place afford a second and subordinate means of extension. The transference of a name from object to object through this apprehension of a likeness or assimilation has already been touched upon. It moves along thoroughly childish lines, and constitutes one of the most striking and interesting of the manifestations of precocious originality. Yet if unconventional in its mode of operation it is essentially thought-activity, a connecting of like with like, and a rudimentary grouping of things in classes.

This tendency to comprehend like things or situations under a single articulate sign is seen already in the use of the early indicative sign 'atta' (all gone). It was used by Preyer's child to mark not only the departure of a thing but the putting out of a flame, later on, an empty glass or other vessel. By another child it was extended to the ending of music, the closing of a drawer and so on. Here, however, the various applications probably answer more to a common feeling of ending or missing than to an apprehension of a common objective situation.

Coming to words which we call names we find that the child will often extend a recognition-sign from one object to a second, and to our thinking widely dissimilar object through the discovery of some analogy. Such extension, moving rather along poetic lines than those of our logical classifications, is apt, as we have seen, to wear a quaint metaphorical aspect. A star, for example, looked at, I suppose, as a small bright spot, was called by one child an eye. The child M. called the opal globe of a lighted lamp

a 'moon'. 'Pin' was extended by another child to a crumb just picked up, a fly, and a caterpillar, and seemed to mean something little to be taken between the fingers. The same child used the sound 'at' (hat) for anything put on the head, including a hair-brush. Another child used the word 'key' for other bright metal things, as money. Romanes' child extended the word 'star,' the first vocable learned after 'Mamma' and 'Papa,' to bright objects generally, candles, gas-flames, etc. Taine speaks of a child of one year who after first applying the word "fafer" (from "chemin de fer") to railway engines went on to transfer it to a steaming coffee-pot and everything that hissed or smoked or made a noise. In these last illustrations we have plainly a rudimentary process of classification. Any point of likeness, provided it is of sufficient interest to strike the attention, may thus serve as a basis of childish classification.

As with names of things so with those of actions. The crackling noise of the fire was called by one child 'barking,' and the barking of a dog was named by another 'coughing'. We see from this that the particular line of analogical extension followed by a child will depend on the nature of the first impressions or experiences which serve as his starting point.

A like originality is apt to show itself in the first crude attempt to seize and name the relations of things. The child C. called dipping bread in gravy 'ba' (bath). Another child extended the word 'door' to "everything that stopped up an opening or prevented an exit, including the cork of a bottle, and the little table that fastened him in his high chair".

In these extensions we see the tendency of child-thought towards 'concretism,' or the use of a simple concrete idea in order to express a more abstract idea. Children frequently express the contrast big, little, by the pretty figurative language 'Mamma' and 'baby'. Thus a small coin was

called by an American child a 'baby dollar'. Romanes' daughter, named Ilda, pointed out the sheep in a picture as 'Mamma-ba' and the lambs as 'Ilda-ba'. It is somewhat the same process when the child extends an idea obtained from the most impressive experience of childish difficulty, *viz.*, 'too big,' so as to make it do duty for the abstract notion 'too difficult' in general.

In this extension of language by the child we may discern, along with this play of the feeling for similarity, the working of association. This is illustrated by the case of Darwin's grandchild, who when just beginning to speak used the common sign 'quack' for duck, then extended this to water, then, following up this associative transference by a double process of generalisation, made the sound serve as the name of all birds and insects on the one hand, and all fluid substances on the other.<sup>1</sup>

The transference of the name 'quack' from the animal to the water is a striking example of the tendency of the young mind to view things which are presented together as belonging one to another and in a manner identical. Another curious instance is given by Professor Minto, in which a child, who applied the word 'mambro' to her nurse, went on to extend it by associative transference to the nurse's sewing machine, then by analogy applied it to a hand-organ in the street, later on, through an association of hand-organ with monkey, to his india-rubber monkey. Here we have a whole history of change of word-meaning illustrating in curiously equal measure the play of assimilation and of association, and falling within a period of two years.<sup>2</sup>

There is another way in which children are said to 'extend' names somewhat analogous to the processes of assimilation and associative transference. They are very fond of using the same word for opposed or other

<sup>1</sup> Quoted by Romanes, *Mental Evolution in Man*, p. 283.

<sup>2</sup> *Logic* (University Extension Manuals), pp. 83-84.

correlative ideas. In some cases we can see that this is due merely to confusion or want of discrimination. When, for example, Preyer's boy confused 'too little' with 'too much,' and 'yesterday' with 'to-morrow,' going so far as to make a compound 'heitgestern' (*i.e.*, heutegestern) to include both,<sup>1</sup> it is easy to see that the child's mind had reached merely the vague idea unsuitable in quantity in the one case, and time not present in the other; and that he failed to differentiate these ideas. In other cases where correlatives are confused, as when a child extended the sign of asking for an eatable ('bit-ye') to the act of offering anything to another, or when as in C.'s case 'spend' was made to do duty for 'cost,' 'borrow' for 'lend,' and 'learn' for 'teach,' the explanation is slightly different. A child can only acquire an idea of abstract relations slowly and by stages. Such words as *lend*, *teach*, call up first a pictorial idea of an action in which two persons are seen to be concerned. But the exact nature of the relation, and the difference in its aspect as we start from the one or the other term, are not perceived. Thus in thinking of a purchase over the counter, a child may be supposed to image the action but not clearly to distinguish the part taken by the person who buys and gives out money ('spends') and the part taken by the person who demands a price or fixes the cost. Perhaps we get near this vague awareness of a relation when we are aiding a violinist to tune his instrument. We may know that his note and our piano note do not accord, and yet be quite unable to determine their exact relation, and to fix the one as higher, the other as lower.

An interesting variety of this extension of names to correlatives is the transference of the attributes of causal agent to passive object, and *vice versa*. Thus a little girl of four called her parasol when blown by the wind 'a windy parasol,' and a stone that made her hand sore 'a very sore

<sup>1</sup> See *op. cit.*, p. 420, also pp. 414 and 418.

stone'. A little Italian girl that had taken some nasty medicines expressed the fact by calling herself nasty ('bimba cattiva').<sup>1</sup>

There is much in the whole of these changes introduced by the child into the uses or meanings of words which may remind one of the changes which go on in the growth of languages in communities. Thus the child's metaphorical use of words, his setting forth of an abstract idea by some analogous concrete image, has its counterpart, as we know, in the early stages of human language. Tribes which have no abstract signs employ a metaphor exactly as the child does. Our own language preserves the traces of this early figurative use of words; as in 'imbecile,' weak, which originally meant leaning on a staff, and so forth.<sup>2</sup>

Again, we may trace in the development of languages the counterpart of those processes by which children spontaneously expand what logicians call the denotation of their names. The word 'sun' has only quite recently undergone this kind of extension by being applied to other centres of systems besides our familiar sun. The multiplicity of meanings of certain words, as 'post,' 'stock' and so forth, points to the double process of assimilative and associative extension which we saw illustrated in the use of the child's word 'mambro'.

Once more, the child's extension of a word from an idea to its correlative has its parallel in the adult's use of language. As the vulgar expression 'I'll larn you' shows (*cf.* the Anglo-Saxon *leornian*), a word may come to mean both to teach and to become taught. A like embracing of agent and object acted upon by the same word is seen in the 'active' and 'passive' meanings of words like the Latin *penetrabilis* ('piercing' and 'pierceable'), and in the 'objective' and 'subjective' meanings of 'pleasant' and

<sup>1</sup> Paola Lombroso, *Saggi di Psicologia del Bambino*, p. 16.

<sup>2</sup> See Trench's account of poetry in words, *On the Study of Words*, lect. vi.

similar words. We are beginning, like the little girl quoted above, to speak of a 'sore' topic. Lastly, the movement of thought underlying the saying of the little Italian girl, 'nasty baby,' seems to be akin to that of the savage when he supposes that he appropriates the qualities of that which he eats.

The changes here touched upon have to do with what philologists call generalisation. As supplementary to these there is in the case of the growth of a community-language a process of specialisation, as when 'physician' from meaning a student of nature has come to mean one who has acquired and can practically apply one branch of nature-knowledge. In the case of the child we have an analogue of this in the gradual limitation of names to narrower classes or to individuals as the result of carrying out certain processes of comparison and discrimination. Thus 'ba-ba,' which is used at first for a miscellaneous crowd of woolly or hairy quadrupeds, gets specialised as a name for a sheep, and the much-abused 'papa' becomes restricted to its rightful owner.

This process of differentiation and specialisation assumes an interesting form in a characteristic feature of the language-invention of both children and savages, *viz.*, the formation of compound words. These compounds are often true metaphors. Thus in the case already quoted where an eye-lid was called an eye-curtain the child may be said to have resorted to a metaphorical way of describing the lid. It is much the same when M. at the age of one year nine months invented the expression 'bwite (bright) penny' for silver pieces. A slightly different example is the compound 'foot-wing' invented by the child C. to describe the limb of a seal. As a further variety of this metaphoric formation I may quote the pretty name 'tell-wind' which a boy of four years and eight months hit upon as a name for the weather-vane.

In these and similar cases, there is at once an analogical transference of meaning (*e.g.*, from curtain to lid) or process

of generalisation, and a limitation of meaning by the appended or qualifying word 'eye,' and so a process of specialisation.

In certain cases the analogical extension gives place to what we should call a classification. One child for example, knowing the word steam-ship and wanting the name sailing-ship, invented the form 'wind-ship'. The little girl M., when one year and nine months old, showed quite a passion for classing by help of compounds, arranging the rooms into 'mornor-room,' 'dinner-room' (she was fond of adding 'er' at this time) and 'nursery-room'.

It might be supposed from a logical point of view that in these inventions the qualifying or determining word would come more naturally after the generic name, as in the French *moulin à vent, cygne noir*. I have heard of one English child who used the form 'mill-wind' in preference to 'wind-mill,' and the order 'dog black' in preference to 'black dog'. It would be worth while to note any similar instances.

In these inventions, again, we may detect a close resemblance between children's language and that of savages. In presence of a new object a savage behaves very much as a child, he shapes a new name out of familiar ones, a name that commonly has much of the metaphorical character. Thus the Aztecs called a boat a 'water-house'; and the Vancouver islanders when they saw a screw-steamer called it the 'kick-kicket'.<sup>1</sup>

A somewhat different class of word-inventions is that in which a child frames a new word on the analogy of known words. A common case is the invention of new substantives from verbs after the pattern of other substantives. The results are often quaint enough. Sometimes it is the agent who is named by the new word, as when the boy C. talked of the 'Rainer,' the fairy who makes rain, or when another little boy dubbed a teacher the 'lessoner'. Sometimes it is the product of the action

<sup>1</sup> Tylor, *Anthropology*, chap. v.



that is named, as when the same child C. and the deaf-mute Laura Bridgman both invented the form 'thinks' for 'thoughts'. In much the same way a boy of three called the holes which he dug in his garden his 'digs'. The reverse process, the formation of a verb from a substantive, also occurs. Thus one child invented the form 'dag' for striking with a dagger; and Preyer's boy when two years and two months old formed the verb 'messen' to express cut from the substantive 'messer' (a knife). It was probably a similar process when the child M. at one year ten months, after seeing a motionless worm and being told that it was dead, asked to see another worm 'deading'. The same child coined the neat verb-form 'unparcel'. This readiness to form verbs from substantives and *vice versa*, which is abundantly illustrated in the development of language, is without doubt connected with the primitive and natural mode of thinking. The object is of greatest interest both to the child and to primitive man as an agent, or as the last stage or result of an action.

In certain of these original formations we may detect a fine feeling for verbal analogy. Thus a French boy, after killing the 'limaces' (snails) which were eating the plants in the garden, dignified his office by styling himself a 'limarcier'; where the inventive faculty was no doubt led by the analogy of 'voiturier' formed from 'voiture'.<sup>1</sup>

In other verbal formations it is difficult to determine the model which is followed. Signorina Lombroso gives a good example. A little girl of two and a half years had observed that when her mother allowed her to take, eat, or drink something, she would say 'prendilo' (take it), 'bevilo' (drink it), or 'mangialo' (eat it). She proceeded to make a kind of adjective or substantive out of each of these, asking 'é prendilo?' 'é bevilo?' 'é mangialo?' *i.e.*, 'Is it takable or a case of taking?' etc., when

<sup>1</sup> Compayré, *op. cit.*, p. 249, where other examples are given.

she wanted to take, drink, or eat something.<sup>1</sup> By such skilful artifices does the little word-builder find his way to the names which he has need of.

In certain cases these original constructions are of a more clumsy order and due to a partial forgetfulness of a word and an effort to complete it. Thus a boy of four spoke of being 'sorrified,' where he was evidently led out of the right track by the analogy of 'horrified'. The same little boy who talked of his 'digs' used the word 'magnicious' for 'magnificent'. This is a choice example of word-transformation. No doubt the child was led by the feeling for the sound of this termination in other grand words, as 'ambitious'. Possible, too, he might have heard the form 'magnesia' and been influenced by a reminiscence of this sound-complex. The talk of 'Jeames' with which Mr. Punch makes us acquainted is full of just such delightful missings of the mark in trying to reproduce big words.

### *Sentence-building.*

We may now follow the child in his later and more ambitious linguistic efforts. The transition to this higher plane is marked by the use of the completed form of thought, the sentence.

At first, as already pointed out, there is no sentence-structure. The child begins to talk by using single words. These words consist of what we call substantives, as 'Mamma,' 'nurse,' 'milk,' a few adjectives, as 'hot,' 'nice,' 'good,' a still smaller number of adverbial signs, as 'ta-ta,' or 'away,' 'over,' 'down,' 'up,' and one or two verb-forms, apparently imperatives, as 'go'. The exact order in which these appear, and the proportion between the different classes of constituents at a particular age, say two and a half or three, appear to vary greatly. Words

descriptive of actions, though very few at first, appear to grow numerous in a later stage.<sup>1</sup>

In speaking of these words as substantives, adjectives, and so forth, I am merely adopting a convenient mode of description. We must not suppose that the words as used in this simple disjointed talk have their full grammatical value. It is not generally recognised that the single-worded utterance of the child is an abbreviated sentence or 'sentence-word' analogous to the sentence-words found in the simplest known stage of adult language. As with the race so with the child, the sentence precedes the word. Moreover, each of the child's so-called words in his single-worded talk stands for a considerable variety of sentence-forms. Thus the words in the child's vocabulary which we call substantives do duty for verbs and so forth. As Preyer remarks, 'chair' (stuhl) means 'There is no chair,' 'I want to be put in the chair,' 'The chair is broken,' and so forth. In like manner 'dow' (down) may mean 'The spoon has fallen down,' 'I am down,' 'I want to go down,' etc.<sup>2</sup> The particular shade of meaning intended is indicated by intonation and gesture.

This sentence-construction begins with a certain timidity. The age at which it is first observed varies greatly. It seems in most cases to be somewhere about the twenty-first month, yet I find good observers among my correspondents giving as dates eighteen and a half and nineteen months; and a friend of mine, a Professor of Literature, tells me that his boy formed simple sentences as early as fifteen months. We commonly have at first quite short sentences formed by two words in apposition. These may consist of what we should call an adjective added to and qualifying a substantive, as in the simple utterance of the child C., 'Big bir' (bird), or the exclamation, 'Papa no' (Papa's nose); or they

<sup>1</sup> For lists of vocabularies and an analysis of their composition see Preyer, *op. cit.* (4th ed.), p. 372 ff.; Tracy, *Psychology of Childhood*, p. 76 ff.

<sup>2</sup> See Preyer, *op. cit.*, p. 361; Romanes, *op. cit.*, p. 296 ff.

may arise by a combination of substantives, as in the sentence given by Tracy, 'Papa cacker,' *i.e.*, 'Papa has crackers,' and one quoted by Preyer, 'Auntie cake' (German, 'Danna Kuha,' *i.e.*, 'Tante Kuche') for 'Auntie has given me cake'; and in a somewhat different example of a compound sentence also given by Preyer, 'Home milk' (German, 'Haim Mimi'), interpreted as 'I want to go home and have milk'. In the case of one child about the age of twenty-three months most of the sentences were composed of two words, one of which was a verb in the imperative. The love of commanding, so strong in the child, makes the use of the imperative, as is seen in this case, very common. M.'s first performance in sentence-building (at eighteen and a half months) was, 'Mamma, tie,' *i.e.*, 'tie gloves'.

Little by little the learner manages longer sentences, economising his resources to the utmost, troubling nothing about inflections or the insertion of prepositions so as to indicate precise relations, but leaving his hearer to discover his meaning as best he may; and it is truly wonderful how much the child manages to express in this rude fashion. A boy nineteen and a half months old gave this elaborate order to his father: 'Dada toe toe ba,' that is, 'Dada is to go and put his toes in the bath'. Pollock's little girl in the first essay at sentence-building, recorded at the age of twenty-one and a half months, actually managed a neat antithesis: 'Cabs dati, clam clin,' that is to say, 'Cabs are dirty, and the perambulator is clean'. Preyer's boy in the beginning of the third year brought out the following, 'Mimi atta teppa papa oi,' that is to say, 'Milch atta Teppich Papa fui,' which appears to have signified, "The milk is gone, it is on the carpet, and papa said 'Fie'". It may be added that the difficulties of deciphering these early sentences is aggravated by the frequent resort to slurs, as when a child says, 'm' out' for 'take me out,' 't on' for 'put it on'.

The order of words in these first tentative sentences is noticeable. Sometimes the subject is placed after the predicate, as in an example given by Pollock, 'Run away man,' *i.e.*, 'The man runs (or has run) away,' and in the still quainter example given by the same writer, 'Out-pull-baby 'pecs (spectacles),' *i.e.*, 'Baby pulls or will pull out the spectacles'. In like manner the adjective used as predicate may precede the subject, as in the examples given by Mailliet, 'Jolie la fleur,' etc.<sup>1</sup> Sometimes, again, the object comes before the verb, as apparently in the following example given by Miss Shinn: a little girl delighted at the prospect of going out to see the moon exclaimed, "Moo-ky (sky), baby shee (see)".<sup>2</sup> Here is a delightful example of a transposition of subject and object. A boy two years and three months asked, 'Did Ack (Alec) chocke an apple?' *i.e.*, 'Did an apple choke Alec?' though in this case we very probably have to do with a misunderstanding of the action choke. Other kinds of inversion occur when more complex experiments are attempted, as in connecting 'my' with an adjective. Thus one child said prettily, 'Poor my friends';<sup>3</sup> which archaic form may be compared with the following Gallic-looking idiom used by M. at the age of one year ten months: 'How Babba (baby, *i.e.*, herself) does feed nicely!' The same little girl put the auxiliary out of its place, saying, 'Tan (can) Babba wite' for 'Baby can write,' though this was probably a reminiscence of the question-form.

These inversions of our familiar order are suggestive. They have some resemblance to the curious order which appears in the spontaneous sign-making of deaf-mutes. Thus a deaf-mute answered the question, 'Who made God?'

<sup>1</sup> See Compayré, *op. cit.*, p. 206.

<sup>2</sup> *Notes on the Development of a Child*, p. 84.

<sup>3</sup> Canton, *The Invisible Playmate*, p. 32, who adds that this exactly answers to the form, "Good my lord!"

by saying, "God made nothing," *i.e.*, "nothing made God". Similarly the deaf-mute Laura Bridgman expressed the petition, 'Give Laura bread,' by the form, 'Laura bread give'.<sup>1</sup> Such inversions, as we know, are allowable and common in certain languages, *e.g.*, Latin. The study of the syntax of child-language and of the sign-making of deaf-mutes might suggest that our English order is not in certain cases the most natural one.

A somewhat similar inversion of what seems to us the proper order appears in the child's first attempts at negation. The child C. early in his third year expressed the idea that he was not going into the sea thus: 'N. (his own name) go in water, no'. Similarly Pollock's child expressed acquiescence in a prohibition in this manner, 'Baby have papa (pepper) no,' where the 'no' followed without a pause. The same order appears in the case of French children, *e.g.*, 'Papa non,' *i.e.*, 'It is not Papa,' and seems to be a common, if not a universal form of the first half-spontaneous sentence-building. Here again we see an analogy to the syntax of deaf-mutes, who appear to append the sign of negation in a similar way, *e.g.*, 'Teacher I beat, deceive, scold no,' *i.e.*, 'I must not beat, deceive, scold my teacher'. We see something like it, too, in the formations of savage-languages, as when 'fool no' comes to be the sign of 'not fool,' that is of wise.<sup>2</sup> When 'not' comes into use it is apt to be put in a wrong place, as when the little girl M. said, 'No Babba look' (*i.e.*, 'Babba will not look'), and 'Mr. Dill not did tum' for 'Mr. Gill did not come'.<sup>3</sup>

Another closely related characteristic of this early childish sentence-building is the love of antithesis under the

<sup>1</sup> See Romanes, *op. cit.*, p. 116 f., where other examples may be found.

<sup>2</sup> *Annual Report of the Bureau of Ethnology*, 1879-80, p. 391 ff.

<sup>3</sup> It may be added that this child regularly used 'not' or 'n't' as a negating or cancelling sign for the whole sentence, saying, for example, 'Babba mus'n't go in,' for 'Babba may stay out'.

form of two balancing statements. Thus a child will often oppose an affirmative to a negative statement as a means of bringing out the full meaning of the former. The boy C., for example, would say, 'This a nice bow-wow, not nasty bow-wow'. The little girl M. said, 'Boo (the name of her cat) dot (got) tail; poor Babba dot no tail,' proceeding to search for a tail under her skirts. This use of a negative statement by way of contrast or opposition to an affirmative grew in the case of one child aged two years and two months into a habit of description by negations. Thus an orange was described by the saying, 'No, 't isn't apple,' porridge by 'No, 't isn't bread and milk'. It is interesting to note that deaf-mutes proceed in a similar fashion by way of antithetic negative statement. Thus one of these expressed the thought, 'I must love and honour my teacher,' by the order, 'Teacher I beat, deceive, scold no!—I love honour yes!'<sup>1</sup>

These first essays in the construction of sentences illustrate the skill of the child in eking out his scanty vocabulary by help of a metaphorical transference of meaning. Taine gives a charming example of this device. A little girl of eighteen months had acquired the word 'Coucou' as used by her mother or nurse when playfully hiding behind a door or chair, and the expression 'ça brûle' as employed to warn her that her dinner was too hot, or that she must put on her hat in the garden to keep off the hot sun. One day on seeing the sun disappear behind a hill she exclaimed, 'A bûle coucou'.<sup>2</sup>

It is a fearful moment when the child first tries his hand at inflections, and, more especially in our language, those of verbs. Pollock's child made the attempt, and successfully, at the age of twenty-two months. Such first essays

<sup>1</sup> A curious example of negative antithesis is given by Perez, *op. cit.*, p. 196. On other analogies between the syntax of children and of deaf-mutes, see Compayré, *op. cit.*, p. 251 f.

<sup>2</sup> *On Intelligence*, pt. i., bk. i., chap. ii., sect. vi.

are probably examples of pure imitation, the precise forms used having been previously heard from others. Hence while they show a growing power of thought, of a differencing of the relations of number and time, they do not involve verbal construction properly so called. This last appears as soon as the child carries over his knowledge of particular cases of verbal inflection and applies it to new words. | This involves a nascent appreciation of the reason or rule | according to which words are modified. The development of this feeling for the general mode of verbal change underlies all the later advance in correct speaking.

While the little explorer in the *terra incognita* of language can proceed safely in this direction up to a certain point he is apt, as we all know, to stumble now and again; nor is this to be wondered at when we remember the intricacies, the irregularities, which characterise a language like ours. In trying, for example, to manage the preterite of an English verb he is certain, as, indeed, is the foreigner, to go wrong. The direction of the error is often in the transformation of the weak to the strong form; as when 'screamed' becomes 'scram,' 'split' (preterite) 'splat' or 'splut,' and so forth. In other cases the child will convert a strong into a weak form, as when Laura Bridgman, like many another child, would say, 'I eated,' 'I seed,' and so forth.<sup>1</sup> Sometimes, again, delightful doublings of the past tense occur, as 'sawed' for 'saw,' 'eatened' for 'eaten,' 'didn't saw' for 'didn't see,' 'did you gave me?' for 'did you give me?' Active and passive forms are sometimes confused, as when M. said 'not yike being picking up' for 'not like being picked up,' etc. It is curious to note the different lines of imitative construction followed out in these cases.

One thing seems clear here: the child's instinct is to

<sup>1</sup> The same double tendency from weak to strong forms and *vice versa* is seen in the list of transformed past participles given by Preyer, *op. cit.*, p. 360.



simplify our forms, to get rid of irregularities. This is strikingly illustrated in the use of the heterogeneous assemblage of forms known as the verb 'to be'. It is really hard on a child to expect him to answer the question, 'Are you good now?' by saying, 'Yes, I am'. He says, of course, 'Yes, I are'. Perhaps the poor verb 'to be' has suffered every kind of violence at the hands of children.<sup>1</sup> Thus the child M. used the form 'bēd' for 'was'. Professor Max Müller somewhere says that children are the purifiers of language. Would it not be well if they could become its simplifiers also, and give us in place of this congeries of unrelated sounds one good decent verb-form?

Other quaint transformations occur when the child begins to combine words, as when M. joining adverb to verb invented the form of past tense 'fall downed' for 'fell down'. Another queer form is 'Am't I?' used for 'am I not?' after the pattern of 'aren't we?'. An even finer linguistic stroke than this, is 'Bettern't you?' for 'Had you not better?' where the child was evidently trying to get in the form 'hadn't you,' along with the awkward 'better,' which seemed to belong to the 'had,' and solved the problem by treating 'better' as the verb, and dropping 'had' altogether.

A study of these solecisms, which are nearly always amusing, and sometimes daintily pretty, is useful to mothers and young teachers by way of showing how much hard work, how much of real conjectural inference, enters into children's essays in talking. We ought not to wonder that they now and again slip; rather ought we to wonder that, with all the intricacies and pitfalls of our language—this applies of course with especial force to the motley irregular English tongue—they slip so rarely. As a matter of fact, the latter and more 'correct' talk—which is correct

<sup>1</sup> Cf. Preyer's account of a German child's liberties with the same verb, where we find 'gebisst,' 'binnst,' and other odd forms, *op. cit.*, p. 438.

just because the child has stored up a good stock of particular word-forms, and consequently has a much wider range of pure uninventive imitation—is less admirable than the early inventive imitation; for this last not only has the quality of originality, but shows the germ of a truly grammatical feeling for the general types or norms of the language.

The English child is not much troubled by inflections of substantives. The pronouns, however, as intelligent mothers know, are apt to cause much heart-burning to the little linguist. The mastery of 'I' and 'you,' 'me,' 'mine,' etc., forms an epoch in the development of the linguistic faculty and of the power of thought which is so closely correlated with this. Hence it will repay a brief inspection.

As is well known, children begin by speaking of themselves and of those whom they address by names, as when they say, 'Baby good,' 'Mamma come'. This is sometimes described as speaking "in the third person," yet this is not quite accurate, seeing that there is as yet no distinction of person at all in the child's language.

The first use of 'I' and 'you' between two and three years is apt to be erroneous. The child proceeds imitatively to use 'I,' 'me,' 'my' for 'you' and 'your'. Thus one child said, 'What I'm going to do,' for, 'What are you going to do?' In this case, it is plain, there is no clear grasp of what we mean by subject, or of the exact relation of this subject to the person he is addressing.

Yet along with this mechanical repetition of the pronominal forms we see the beginnings of an intelligent use of them. So far as I can ascertain most children begin to say 'me' or 'my' before they say 'you'. Yet I have met with one or two apparent exceptions to this rule. Thus the boy C. certainly seemed to get hold of the form of the second person before that

of the first, and the priority of 'you' is attested in another case sent to me. It is desirable to get more observations on this point.

To determine the exact date at which an intelligent use of the first person appears, is much less easy than it looks. The 'I' is apt to appear momentarily and then disappear, as when M. at the age of nineteen months three weeks was observed to say 'I did' once, though she did not use 'I' again until some time afterwards. Allowing for these difficulties it may be said with some degree of confidence that the great transition from 'baby' to 'I' is wont to take place in favourable cases early in the first half of the third year. Thus among the dates assigned by different observers I find, twenty-four months, twenty-five months (cases given by Preyer), between twenty-five and twenty-six (Pollock), twenty-seven months (the boy C.). A lady friend tells me that her boy began to use 'I' at twenty-four months. In the case of a certain number of precocious children this point is attained at an earlier date. Thus Preyer quotes a case of a child speaking in the first person at twenty months. Schultze gives a case at nineteen months. A friend of mine, a Professor of English Literature, whose boy showed great precocity in sentence-building, reports that he used the forms 'me' and 'I' within the sixteenth month. Preyer's boy, on the other hand, who was evidently somewhat slow in lingual development, first used the form of the first person 'to me' (mir) at the age of twenty-nine months.

The precise way in which these pronominal forms first appear is very curious. Many children use 'me' before 'I'. Preyer's boy appears to have first used the form 'to me' (mir). 'My' too is apt to appear among the earliest forms. In such different ways does the child pass to the new and difficult region of pronominal speech.

The meaning of this transition has given rise to much discussion. It is plain, to begin with, that a child cannot

acquire these forms as he acquires the name 'papa,' 'nurse,' by a direct and comparatively mechanical mode of imitation. When he does imitate in this fashion he produces, as we have seen, the absurdity of speaking of himself as 'you'. Hence during the first year or so of speech he makes no use of these forms. He speaks of himself as 'baby' or some equivalent name, others coming down to his level and setting him the example.

The transition seems to be due in part, as I have elsewhere pointed out, to a growing self-consciousness, to a clearer singling out of the *ego* or self as the centre of thought and activity, and the understanding of the other 'persons' in relation to this centre. Not that self-consciousness *begins* with the use of 'I'. The child has no doubt a rudimentary self-consciousness when he talks about himself as about another object: yet the use of the forms 'I,' 'me,' may be taken to mark the greater precision of the idea of 'self' as not merely a bodily object and nameable just like other sensible things, but as something distinct from and opposed to all objects of sense, as what we call the 'subject' or *ego*.

While, however, we may set down this exchange of the proper name for the forms 'I' and 'me' as due to the spontaneous growth of the child's intelligence, it is possible that education exerts its influence too. It is conjecturable that as a child's intelligence grows, others in speaking to him tend unknowingly to introduce the forms 'I' and 'you' more frequently. Yet I am disposed to think that the child commonly takes the lead here. However this be, it is clear that growing intelligence, involving greater interest in others' words, will lead to a closer attention to these pronominal forms as employed by others. In this way the environment works on the growing mind of the child, stimulating it to direct its thoughts to these subtle relations of the 'me and not me,' 'mine and thine'. The more intelligent the environment the greater will be the

stimulating influence: hence, in part at least, the difference of age when the new style of speech is attained.<sup>1</sup>

The acquirement of these pronominal forms is a slow and irksome business. At first they are introduced hesitatingly, and alongside of the proper name; the child, for example, saying sometimes, 'Baby' or 'Ilda,' sometimes 'I' or 'me'. In some cases, again, the two forms are used at the same time in apposition, as in the delightful form not unknown in older folk's language, 'Hilda, my book'. The forms 'I' and 'me' are, moreover, confined at first to a few expressions, as 'I am,' 'I went,' and so forth. The dropping of the old forms, as may be seen by a glance at the notes on the child C., and at Preyer's methodical diary, is a gradual process.

Quaint solecisms mark the first stages of the use of these pronouns. As in the case of the earlier use of substantives, one and the same form will be used economically for a variety of meanings, as when 'me' was by the boy C. used to do duty for 'mine' also, and 'us' for 'ours'. Here it is probable there is a lack of perfect discrimination. The connexion between the self and its belongings is for all of us of the closest. When a child of two, who was about to be deprived of her doll, shouted, 'Me, me!' may we not suppose that the doll was taken up into the inner circle of the self?<sup>2</sup> Sometimes in this enrichment of the vocabulary by pronouns new and delightful forms are struck off, as when the little experimenter invents the possessive form 'she's'.

The perfect unfettered use of these puzzling forms comes much later. Preyer quotes a case in which a child

<sup>1</sup> Preyer (*op. cit.*, Cap. 22) seems to argue that children have a clear self-consciousness before they attempt to use the forms 'I,' etc.; and that the acquisition of the latter is due to imitation. But he does not show why this imitation should begin to work so powerfully at a particular period of linguistic development.

<sup>2</sup> Compare above, p. 43.

Olga, aged four years, would say, 'She has made me wet,' meaning that she herself had done it. But this perhaps points to that tendency to split up the self into a number of personalities, to which reference was made in an earlier essay.

The third year, which witnesses the important addition of the pronouns, sees other refinements introduced. Thus the definite article was introduced in the case of Preyer's boy in the twenty-eighth month, in that of an English boy at the age of two years eight months. Prepositions are introduced about the same time. In this way childish talk begins to lose its primitive disjointed character, and to grow into an articulated structure.<sup>1</sup> Yet the perfect mastery of these takes time. A feeling for analogy easily leads the little explorer astray at first, as when the child M. said 'far to' after the model 'near to'.

Through this whole period of language-learning the child continues to show his originality, his inventiveness. He is rarely at a loss, and though the gaps in his verbal acquisitions are great he is very skilful in filling them up. If, for example, our bright little linguist M., at the age of one year eight and a half months, after being jumped by her father, wants him to jump her mother also, she says, in default of the word 'jump,' "Make mamma high". A boy of twenty-seven months ingeniously said, 'It rains off,' for 'The rain has left off'. Forms are sometimes combined, as when a boy of three years three months used 'my lone,' 'your lone,' for 'me alone' or 'by myself,' 'you alone' or 'by yourself'. Another girl, two years ten months, said, 'No two 'tatoes left,' meaning 'only one potato is left'. Pleonasms occur in abundance, as when a boy of two would say, 'Another one bicca (biscuit),' and, better still, 'another more'.

<sup>1</sup> For a fuller account of this progress, the reader cannot do better than consult Preyer, *op. cit.*, Cap. 20 and 21.

*Getting at our Meanings.*

There is one part of this child's work of learning our language of which I have said hardly anything, *viz.*, the divining of the verbal content, of the meaning we put or try to put into our words. A brief reference to this may well bring this study of childish linguistics to a close.

The least attention to a child in the act of language-learning will show how much of downright hard work goes to the understanding of language. If we are to judge by the effort required we might say that the child does as much in deciphering his mother-tongue as an Oriental scholar in deciphering a system of hieroglyphics. Just think, for example, how many careful comparisons the small child-brain has to carry out, comparisons of the several uses of the word by others in varying circumstances, before he can get anything approaching to a clear idea, answering even to such seemingly simple words as 'clean,' 'old' or 'clever'. The way in which inquiring children plague us with questions of the form, 'What does such and such a word mean?' sufficiently shows how much thought-activity goes in the trying to get at meanings. This difficulty, moreover, persists, reappearing in new forms as the child pushes his way onwards into the more tangled tracts of the lingual terrain. It is felt, and felt keenly, too, when most of the torments of articulation are over and forgotten. Many of us can remember how certain words haunted us as uncanny forms into the nature of which we tried hard, but in vain, to penetrate.

Owing to these difficulties the little learner is always drifting into misunderstanding of words. Such misapprehensions will arise in a passive way by the mere play of association in attaching the word especially to some striking feature or circumstance which is apt to present itself when the word is used in the child's hearing. In this way, for example, general terms may become terribly restricted in range by the incorporation of accidentals into their meaning, as